FREE LOOPS & SAMPLES 2 EXCLUSIVE NEW PACKS + 18GB ARCHIVE LIBRARY

Issue 408
Making the future since 1992

FutureMusic®

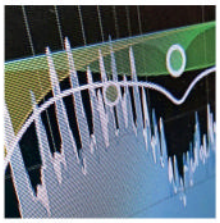
Technique and technology for making music

HOW TO MIX SMARTER AND FASTER!

GEORGIA

MARK RANKIN
Adele, Harry Styles, Iggy Pop, Florence Welch, Basement Jaxx

RHIANNON MAIR
Laura Marling, Bryde, Charlotte Clark, Martha Hill, BBC, Netflix

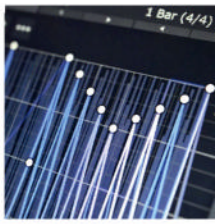


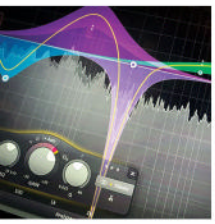
GO-TO EFFECTS CHAINS

MIX LIKE THE PROS!

Producers, artists and engineers share the trade secrets behind their chart-topping tracks

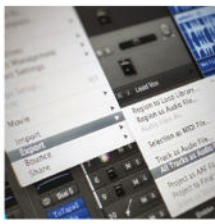
ADVICE FROM THE PROS BEHIND ADELE, **HARRY STYLES,** FLORENCE + THE MACHINE, **NEW ORDER,** THE 1975 **AND MANY MORE...**

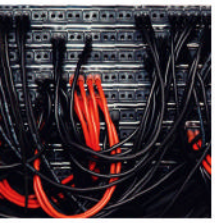


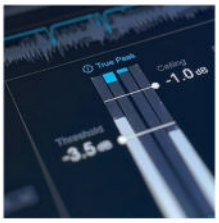


VOCAL PROCESSING EXPLAINED

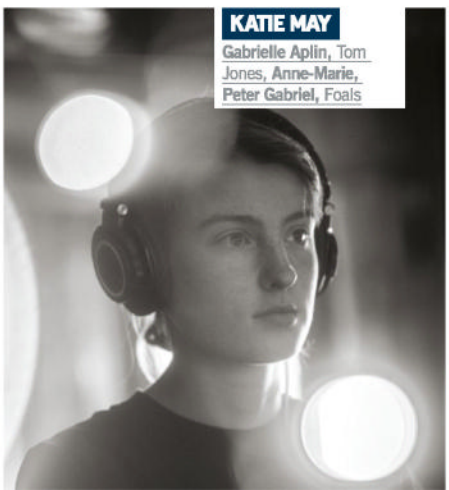
SCANNER







TIM OLIVER
New Order, Stone Roses, Happy Mondays, Sinead O'Connor

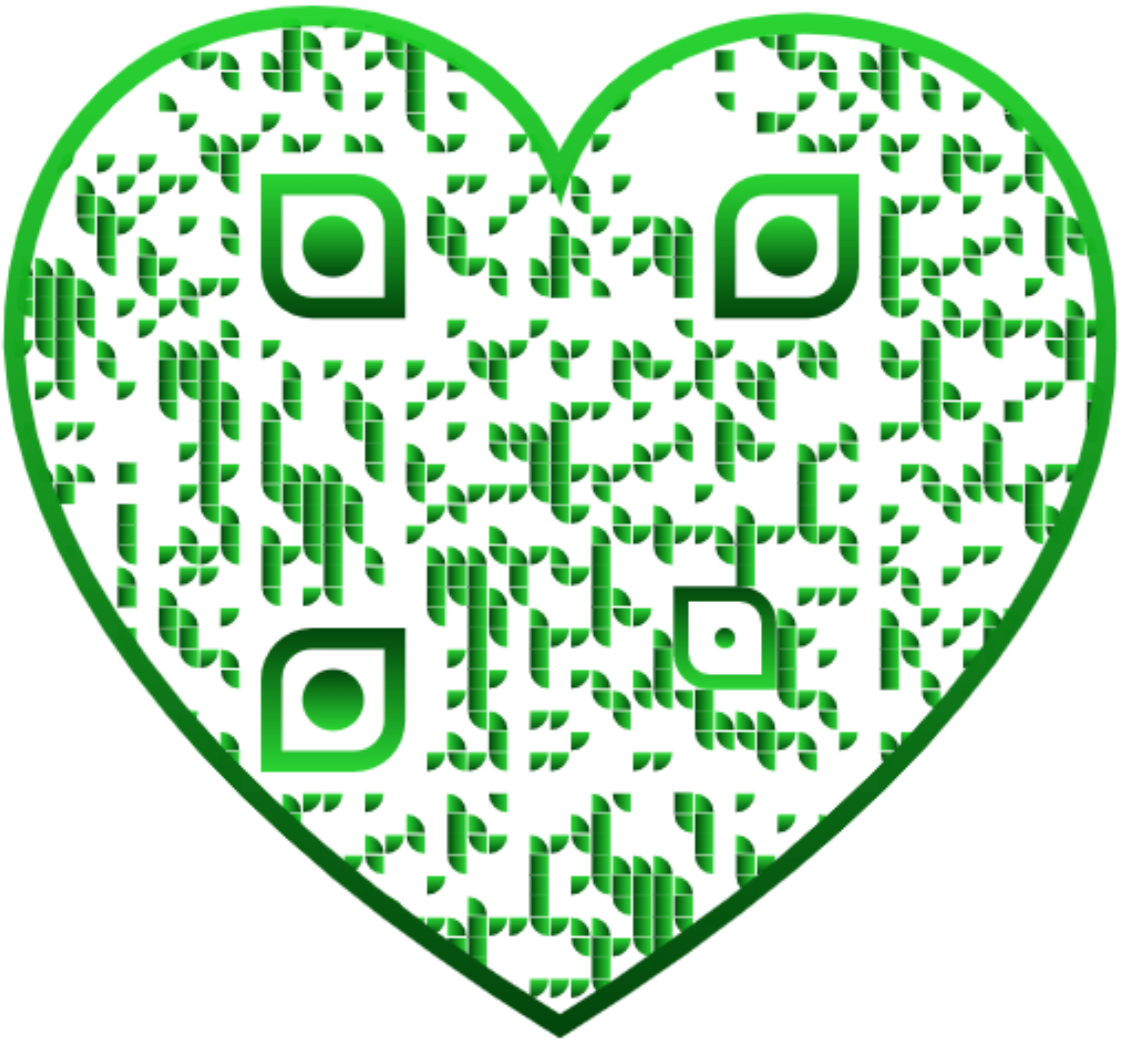


KATIE MAY
Gabrielle Aplin, Tom Jones, Anne-Marie, Peter Gabriel, Foals

PLUS
REVIEWED
UDO SUPER GEMINI

HOW TO BUILD A TEMPLATE

FUTURE



EchoBoy

The Pro Standard for Delay

Insert decades of analog echo history into your mix with EchoBoy. Its luscious tone and 30 built-in echo styles have made it the go-to effect for top producers, engineers, artists and sound designers. The EchoBoy sound has made its way into countless hit songs, movies, and games, just as it will find its way into every corner of your mixes. We promise.

"I use Echo Boy on almost every mix. It is so adaptable that I can always get what I want – quickly."

– Bob Power (A Tribe Called Quest, Erykah Badu, Citizen Cope, D'Angelo, De La Soul)

---

soundtoys

Free 30-Day Trial
at www.soundtoys.com

LEWITT

Get Record-Ready sound from the start with LCT 240 PRO.

LEWITT's Record-Ready sound is adored by artists, creators, and world-renowned studios.
It delivers a polished sound from the start, so the only thing you need to do is press record.

Hear the LCT 240 PRO for yourself.
lewitt.link/lct240pro-future

musicradar.
The No.1 website for musicians

Love this magazine?
You'll love musicradar.com

Thousands of gear reviews and killer video demos

Tips and techniques to help you create your own sound

musicradar.

YouTube

FutureMusic

Editor-In-Chief
Si Truss, simon.truss@futurenet.com
Reviews Editor, Music Technology
Simon Arblaster, simon.arblaster@futurenet.com
Tech Editor, MusicRadar.com
Matt Mullen, matt.mullen@futurenet.com
Managing Editor
Kate Puttick, kate.puttick@futurenet.com
Production Editor
Stan Bull, stanley.bull@futurenet.com
Design
Philip Cheesbrough, Meg Culliford, Mark White

CONTRIBUTORS **Bruce Aisher, Phil Barker, Oli Bell, Chris Corfield, Olly Curtis, Simon Fellows, Andy Jones, Adam Lee, Matt McCracken, Jon Musgrave, Rob Redman, James Russell, Roy Spencer, Robbie Stamp, Danny Turner**

ADVERTISING
For Ad enquiries: Kyle Phillips, kyle.phillips@futurenet.com

MARKETING
Direct Marketing Executive: Will Hardy

PRODUCTION & DISTRIBUTION
Production Controller: Fran Twentyman **Production Manager:** Mark Constance
Printed in the UK by: Buxton Press on behalf of Future
Distributed in the UK by: Marketforce (UK), 2nd Floor, 5 Churchill Place, Canary Wharf, London, E14 5HU **Tel:** +44 (0) 203 787 9001

CIRCULATION
Head of Newstrade: Tim Mathers

SUBSCRIPTIONS
Order line and enquiries: +44 (0)330 333 1113
Online enquiries: www.magazinesdirect.com **Email:** help@magazinesdirect.com

INTERNATIONAL LICENSING AND SYNDICATION
Future Music is available for licensing and syndication. Contact the Licensing team.
Head of Print Licensing: Rachel Shaw, licensing@futurenet.com

MANAGEMENT
Brand Director, Music: Stuart Williams
Content Director: Scott Rowley
Global Head of Design: Rodney Dive
Head of Design (Music): Brad Merrett
Group Art Editor: Graham Dalzell

Future Music, ISSN 0967-0378, is published monthly with an extra issue in December by Future Publishing, Quay House, The Ambury, Bath, BA1 1UA, UK
The US annual subscription price is $197.60. Airfreight and mailing in the USA by agent named World Container Inc, c/o BBT, 150-15 183rd St, Jamaica, NY 11413, USA. Application to Mail at Periodicals Postage Prices is Pending at Brooklyn NY 11256.
US POSTMASTER: Send address changes to *Future Music*, World Container Inc, c/o BBT, 150-15 183rd St, Jamaica, NY 11413, USA
Subscription records are maintained at Future Publishing, c/o Air Business Subscriptions, Rockwood House, Perrymount Road, Haywards Heath, West Sussex, RH16 3DH, UK

FUTURE
Connectors. Creators. Experience Makers.

Future plc is a public company quoted on the London Stock Exchange (symbol: FUTR)
www.futureplc.com

Chief Executive Officer **Jon Steinberg**
Non-Executive Chairman **Richard Huntingford**
Chief Financial and Strategy Officer **Penny Ladkin-Brand**

Tel +44 (0)1225 442 244

We are committed to only using magazine paper which is derived from responsibly managed, certified forestry and chlorine-free manufacture. The paper in this magazine was sourced and produced from sustainable managed forests, conforming to strict environmental and socioeconomic standards. The manufacturing paper mill holds full FSC (Forest Stewardship Council) certification and accreditation

All contents © 2024 Future Publishing Limited or published under licence. All rights reserved. No part of this magazine may be used, stored, transmitted or reproduced in any way without the prior written permission of the publisher. Future Publishing Limited (company number 2008885) is registered in England and Wales. Registered office: Quay House, The Ambury, Bath BA1 1UA. All information contained in this publication is for information only and is, as far as we are aware, correct at the time of going to press. Future cannot accept any responsibility for errors or inaccuracies in such information. You are advised to contact manufacturers and retailers directly with regard to the price of products/services referred to in this publication. Apps and websites mentioned in this publication are not under our control. We are not responsible for their contents or any other changes or updates to them. This magazine is fully independent and not affiliated in any way with the companies mentioned herein.

If you submit material to us, you warrant that you own the material and/or have the necessary rights/permissions to supply the material and you automatically grant Future and its licensees a licence to publish your submission in whole or in part in any/all issues and/or editions of publications, in any format published worldwide and on associated websites, social media channels and associated products. Any material you submit is sent at your own risk and, although every care is taken, neither Future nor its employees, agents, subcontractors or licensees shall be liable for loss or damage. We assume all unsolicited material is for publication unless otherwise stated, and reserve the right to edit, amend, adapt all submissions.

The ‘pro’ touch

One of the great stuggles when it comes to learning to produce music is trying to work out exactly why it is that your tracks don’t sound as polished and professional as releases from your favourite artists. It can be easy to get downhearted and assume the problem must lie in the expensive studios and vintage gear that top producers use – things many of us can’t afford to access.

In reality though, given the quality of modern plugins and home studio gear, it’s perfectly possible to capture a ‘pro sound’ at home, whatever your budget may be. All it takes is a little know-how.

To help you crack that ‘pro sound’, this issue we’ve sat down with producers and engineers behind some of the world’s biggest artists, to get mixing and mastering that you can translate to your productions, whatever your budget and wherever your studio is.

We hope you find the issue helpful...

Si Truss, Editor-In-Chief
simon.truss@futurenet.com

Widely Recycled
ipso. For press freedom with responsibility

FM CONTENTS

44

IN THE STUDIO WITH...

RIDE

INCLUDES VIDEO

They still wear their shoegaze badge with pride, but their enviable studio leaves the pedalboard behind. We took the tour

© Cal McIntyre

ISSUE **HIGHLIGHTS**

78

REVIEWED

UDO Super Gemini

Can this dual-layer poly synth double the chances of us scoring a hit?

65

Producer's Guide to…
Eurorack percussion

© Erica Echenberg/Redferns

76

Pioneers
Brian Eno

12

Filter
DAACI Natural Drums

18

Talking Shop
Loukeman

20

Classic album
Orbital, *Orbital*

54

Masterclass
NI Kontrol S61 Mk3

REVIEWS

78 UDO Audio Super Gemini

82 Oeksound Bloom

83 ALM Busy Circuits Powered Case
84 PreSonus Eris Pro 8
86 t.bone HD 815
88 Røde NT-1 Signature
90 IK Multimedia ARC Studio

92 Klevgrand OneShot

94 Sounds and Samples

ARTISTS

18 TALKING SHOP
LOUKEMAN
44 IN THE STUDIO
RIDE
60 INTERVIEW
NAUM GABO
70 INTERVIEW
KELLY MORAN

REGULARS

12 Filter: The latest news
20 Classic Album: Orbital, *Orbital*
24 SAVE MONEY, subscribe today!
28 Releases: What's caught our ear this month?

54 Masterclass:
Native Instruments
Kontrol S-Series Mk3

65 Producer's Guide to…
Eurorack percussion

76 Pioneers… Brian Eno

SOCIAL

Find us online at
futuremusic.co.uk

Watch our videos
youtube.com/
futuremusicmagazine

Follow us on Twitter
@futuremusicmag

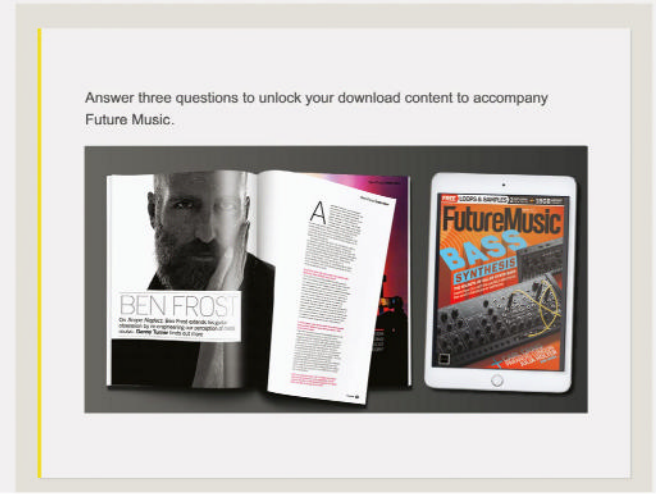
Join us on Facebook
facebook.com/
futuremusicmagazine

ACCESSING YOUR **BONUS DIGITAL CONTENT**

musicradar.com/how-to/future-music-408-downloads

Head to the link above to grab the latest samples and downloads!

(Image credit: Future)



70

INTERVIEW

Kelly Moran

The composer-producer dishes the dirt on working with her most formidable collaborator yet… the Yamaha Disklavier

IN THE **ARCHIVE – UPDATED!**

FM's Sample Archive gives you over 18GB of royalty-free sounds. **Here's what's inside...**

2024 PACKS

BASS BUNDLE 2024
- DigiBass
- Kick Meets Bass
- Techno Bass

CREATIVE HARDWARE
- Bent and Modded
- Budget Effects
- Ring Mod

CREATIVE SAMPLING
- Casio SK-1
- Tape Loops

EXPERIMENTAL SOUNDS
- Liquid Sound
- Micro-Tonal
- Out-the Transitions

GENRE PACKS 2024
- EBM
- Liquid DnB Pads and Melodies
- Neon Pop Synths
- Psych Rock Synths

GLITCH & GRANULAR
- Glitch
- Glitch Textures
- Glitch Toplines
- Granular Processing

HIP-HOP, FUNK & SOUL 2024
- Classic Boom-Bap
- Hip-Hop Crunch
- Soulful Keys

HOUSE & TECHNO 2024
- Classic House Chord Hooks
- House and Techno Toolkit
- Vintage House and Techno

LATE-NIGHT MELODIES
- Ambient Piano
- Balearic
- Dream Pop
- Old School Euphoria

MELODIC IDEAS
- Minimal Melodies
- Yacht Rock Licks

PERCUSSIVE INSPIRATION
- 808 and 909 Reimagined
- Percussive Noise

RHYTHMIC IDEAS
- Rhythmic FX
- Rhythmic Noise
- Sidechain
- Swung & Skippy

SYNTH TONES
- Arpeggiation
- Dub Chords
- Synth Mallets
- Wavetable & Wave Synthesis

UNIQUE FX
- Artificial Metal
- Horror FX
- Piezo FX
- Synth FX

ARCHIVE CLASSICS

'70S SYNTHS
- '70s Synths Pt 1
- '70s Synths Pt 2

'80S SYNTHS
- '80s Synths Pt 1
- '80s Synths Pt 2

'90S SYNTHS
- '90s Synths Pt 1
- '90s Synths Pt 2

'00S SYNTHS
- '00s Synths Pt 1
- '00s Synths Pt 2

ATMOSPHERES & BACKGROUNDS
- Atmospheric Beds
- Noise, Crackle & Hiss
- Sounds of the City

ESSENTIAL DRUMS
- 808 and 909
- Ultimate Cymbals
- Ultimate Kick Bundle
- Ultimate Snares & Claps
- Vintage Drum Machine Hits

PERCUSSION
- Modular Percussion
- Shakers, Tambs & Toplines
- Sticks, Knocks & Rims

TECHNIQUE **& FEATURES**

30

Mix like the pros!

How do you elevate your track from demo-level doldrums to pro-tier perfection? We asked those in the know for their tips

EXCLUSIVE **SAMPLE PACKS**

Bleeps, tones, glitch

CYCLICK SAMPLES PRESENT...

Forget chords and melodies – our latest pack is crammed full of esoteric bleeps, glitchy tones and oddball synth noises.

Odd mics

GROOVE CRIMINALS PRESENT...

We get creative with contact mics, piezo pickups and unusual recording tools to create a pack of characterful FX and loops.

BONUS **SAMPLES** DOWNLOAD AT MUSICRADAR.COM/HOW-TO/FUTURE-MUSIC-408-DOWNLOADS

loopmasters.com

01 **Loopmasters** Sundance Afro House Percussion
02 **Hy2rogen** Drum & Bass Addiction
03 **Element One** Tuff Roots Reggae
04 **Blind** Impulse Sequence Electro IDM Drums
05 **Artisan Audio** Techno Desecent
06 **Singomakers** Techno Warp

Find Your **Perfect Tone**

Every issue, Guitarist brings you the best gear, features, lessons and interviews to fuel your passion for guitar

Available to order online at www.magazinesdirect.com/guitarist-magazine

Guitarist magazine is also available on iOS & Android

Is Natural Drums the future of AI beats?

DAACI claims that its "AI co-pilot for drums" will improvise like a real drummer and generate beats for you in real time

DAACI is an Abbey Road-backed startup developing AI-powered tools for musicians, composers and producers. We spoke to the DAACI team last year about the generative 'meta-composition' software they're developing that promises to "compose, arrange, orchestrate and produce music" using AI.

While that's still in development, this month DAACI has unveiled a new product and launched an Open Beta Community, inviting users to offer feedback and contribute to their development process.

Natural Drums is an "assistive AI co-pilot" for generating drum grooves in real time. Dial in a drum pattern using its sequencer and the plugin will improvise on your rhythmic idea, creating variations and fills that can be tweaked using various controls.

Natural Drums itself doesn't generate any sound, but is instead a MIDI plugin that sends out MIDI data that can trigger drum machine plugins such as Ableton's Drum Rack or be exported as MIDI clips. Starting with either a beat of your own creation, or one of the plugin's preset styles, you're able to generate constantly evolving rhythms and fills that subtly vary on each repetition – like a real drummer would do – by hitting Natural Drums' Shuffle Every Loop button.

The sequencer holds three different patterns that can be structured into various arrangements using a drop-down box in the top right corner. Patterns can be increased in busyness and complexity using the dials found in the sequencer. At the bottom of the window you can edit the patterns

Natural Drums is generating, or mute and solo parts of the drum kit; here you're also able to dial in swing and velocity humanisation or switch over to half-time.

Natural Drums' beat-generating engine has been trained on the playing of expert drummers and draws on the expertise of real musicians. DAACI is keen to emphasise that it doesn't create purely random beats or work from a database of pre-made patterns, but that it instead "thinks like a musician" and creates beats that are unique to the user.

"Natural Drums is a perfect start to the pulse of this beta community," explains DAACI's CEO, Rachel Lyske. "Over 30 years ago, at the start of my creative journey, the first thing that I wrote was a simple drum beat. The challenge then was to express the complexity that I was hearing in my head.

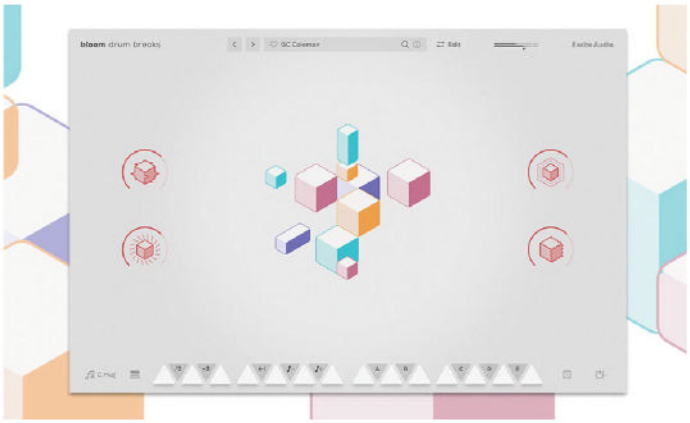
"How could I vary it? How could I expand it, make it interesting and make it work with other instruments? I had to write it all out by hand and I didn't have the tools to bring my ideas to life. Now, Natural Drums is in the hands of our users and they can benefit from DAACI's unique approach and system."

Priced at £18, Natural Drums is available now for macOS. **FM**

Excite Audio's new drum plugin promises "instant breaks"

If creating the perfect drum break is supposed to involve scratchy vinyl, sampling and careful editing, someone forgot to mention it to Excite Audio, because its new Bloom Drum Breaks plugin lets you create that essential rhythmic razzle dazzle in next to no time.

This maps loops, fills and one-shots to your MIDI keyboard, so you can switch between and tweak them at will. There are also four macro controls for dialling in digital, lo-fi, slap verb and phaser effects, while the edit page enables you to fine-tune samples, manipulate beats and get in-depth with the saturation, dynamics, noise, lo-cut and hi-cut processors.



The workflow is pretty simple: set the tempo, choose a sample bank or one of the 250 presets and then fire off the loops that are assigned to two octaves' worth of white keys. The black keys, meanwhile, are used for altering the likes of playback speed and pitch, as well as to trigger custom sequences and modulation.

There are eight banks of sounds and you can mix and match between them, either manually or by choosing the randomise option. As well as being able to trigger samples from your MIDI keyboard, you can sequence them in the Phrase Player, which also enables you to modulate effect parameters.

Bloom Drum Breaks runs on PC and Mac in VST/AU/AAX formats, and is available now priced at £59. There's also a Lite version which costs £29. **FM**

Turn guitar riffs into ambient soundscapes with NUSofting's free Sosir Freeze-Delay

A new effects plugin from NUSofting promises to make sustained, bowed sounds from plucked, staccato ones by freezing and delaying the input signal – and it's available for free.

This can turn a guitar riff into a shimmering ambient pad sound, but equally could do the same with any input signal, whether that be synths, vocals or any sample that you like; it's a great tool when it comes to creating atmospheric soundscapes.

Sosir has two stages of sound processing, a 'virtual bow' that freezes segments of the input and a delay line with feedback and modulation hooked up to an LFO. Each of these stages has their own gain knob on the interface. There's also a basic reverb that can be added at the end of the signal path.

The sound choice selector is used to change the base timbre and duration of the bowed sound, while the slider next to it is able to apply both high and low-pass filtering. Next to these controls you'll find dials for delay time and feedback, above an LFO with depth and rate controls.

We're told that in designing the plugin, the developer of Sosir took a a lot of inspiration from a preset that's found on Strymon's BigSky reverb pedal.

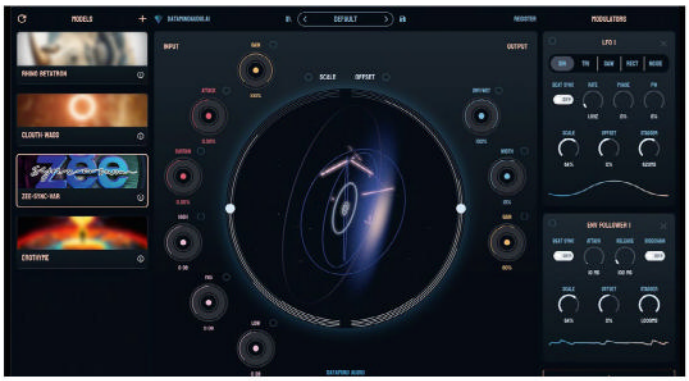
NUSofting's Sosir Freeze-Delay is available for download from nusofting.com in VST3/AU formats for macOS and Windows. **FM**

DataMind Audio's Combobulator resynthesises audio through neural networks to recreate other artists' styles

Artificial intelligence is fast revolutionising music software; recently, Google and Adobe both announced the next steps in their experimental adventures into music AI.

The latest development in this sphere is one of the most intriguing AI-based plugins we've seen in recent months. Combobulator from DataMind Audio processes incoming audio through neural networks trained on the music of artists and sound designers, resynthesising the audio using a process called "style transfer" to recreate the style of another artist using your sounds.

DataMind says that this lets you play "another artist's brain like an instrument" by synthesising new audio based on a combination of the input signal and the information in the neural networks. In practice, Combobulator acts more like an effects plugin that applies a new timbre to a sound while preserving its rhythmic and melodic content.



To start, you can select which neural network, or Artist Brain, you want to use. The plugin arrives with two Artist Brains, but more can be downloaded through DataMind's Model Marketplace. Each Artist Brain is developed in-house by musical AI experts and 50% of sales go to contributing artists.

"We're trying to set up a new standard and a new cottage industry for music producers to make income on AI that's trained on their likeness," explains DataMind's Ben Cantil. "We like to think we're doing farm-to-table AI."

At the centre of the plugin's interface is a visualiser with two sliders around the outside to control Scale and Offset. Both of these parameters control "how the neural network thinks"; increasing the Scale amount applies a broader range of new timbres to the source signal, pulling more information from the neural network, while decreasing it gradually flattens the sound until it becomes monotone.

Offset changes where in the neural network you pull timbres from. The further this is from the centre, the more distinct the results will sound from the original timbre chosen by the network and applied to the source signal.

Spread around the outside of the central visualiser are controls for gain, a three-band EQ, and a transient shaper. On the right is a width knob that applies Offset to the left and right channels of a signal inversely, creating a sense of stereo width and separation. There's also a modulation section with five LFOs, five envelope followers and MIDI input that can be applied to any of the plugin's parameters.

Combobulator is certainly intriguing. While the Model Marketplace currently only offers eight Artist Brains, we look forward to hearing what the plugin can do once it's trained on a broader range of more well-known artists.

Combobulator is priced at $129 in DataMind's launch sale. FM

Kurzweil goes back to the '90s with the new K20 series synths

Released in 1991, the Kurzweil K2000 was a 24-voice 'VAST' synth/sampler that, at the time, boasted some pretty powerful features. Now it's returning – sort of – in the 21st century form of the new K2061 and K2088.

"We asked ourselves, what if we could rebuild the legendary K2000 VAST synthesiser, but using today's technology?" says Kurzweil, and the new K20 series is the answer. This was first spotted at NAMM in prototype form, but it has now been announced as 'official' on the Kurzweil website.

You can choose from 61- and 88-note keyboard options, both of which support aftertouch, and the VAST tone generation system, which enables you to process multisamples, noise and waveforms with a wide variety of synth techniques, is back in play.

The same can be said of the original K2000 preset library – available here in a "resculpted" form – which forms part of the 2GB factory soundset. You also get 2GB of sample memory; no need for the 3.5-inch floppy disk drive that was fitted to the K2000, then.

Each K20 program can have up to 32 layers, and the supported synthesis methods include sample playback, virtual analogue, FM and KB3 organ. You can set up effects chains and dial in master effects, and there's 256-voice polyphony.

There are 16 MIDI control zones and each zone can be tweaked with one of more than 30 hands-on controllers. You also get 16 arpeggiators, 16 MIDI CC sequencers and 16 Riff generators.

We're still waiting on exact prices and a release date, but Kurzweil has said that more info will be available soon. FM

Free Native Instruments plugin lets you conduct thousands of Jacob Collier fans

A new free plugin from Native Instruments and Jacob Collier captures the sound of Collier's audience choir in a software instrument. The audience choir is a regular feature of Collier's live shows where the Grammy-winning artist invites his audience to participate in the performance of his songs, conducting them "polyphonically across many different chords, keys and soundworlds".

Jacob Collier Audience Choir is built on recordings of 22 concerts in different cities around the world, from Adelaide to Zurich; as notes are played, you'll be able to see which recordings you're hearing on the plugin's interface. The plugin offers four different vowel sounds (Aa, Mm, Oo, and Ee) which can be blended via the XY pad on the interface's right-hand side.

The instrument also features a chord generator, so that you'll be able to play diatonic chords with single notes, and a slider for dynamics control. A timbre knob acts like a low-pass filter, and the onboard delay and reverb will do exactly what you'd expect them to do, with five reverb types onboard. You've also got a control for stereo width, and you'll be able to shape your envelope with dials for attack and release.

Open a separate panel and you'll see advanced controls that let you automatically tune chords to the "just intonation" tuning system in real time. "One of the most amazing things about audience choirs is that people often automatically tune to each other in just intonation, because the way the piano is tuned doesn't usually apply to groups of singers en masse," Collier says. "It's an amazing part of this plugin that it's able to adapt as people would in real rooms."

In addition to the choir sounds, the plugin's equipped with percussive sounds and a number of other samples of Collier's audience shouting various words and phrases. The plugin supports polyphonic aftertouch, so you'll be able to get expressive with MPE-compatible controllers like the Native Instruments Kontrol S MK3.

"I've spent the last few years touring around the world, playing shows in every corner of the globe. ...One of my favourite parts of the whole experience has been the ever-expanding evolution of the audience choir," Collier says.

"Over the course of this experience, one thing I was dreaming about was: what if I could sit in the comfort of my own home, and you could sit in the comfort of your own home, and experience the feeling of an audience choir at your fingertips? So I teamed up with the mighty Native Instruments gang and we put together this amazing instrument, built from real samples of real audiences the world over."

The plugin is available to download for free at Native Instruments' website. FM

Pittsburgh Modular Taiga gets upgraded with a keyboard and expansion bay

Last year, we reported on the release of Pittsburgh Modular Taiga, a new semi-modular analogue synth that promised to "push the boundaries of analogue synthesis".

In its original format, Taiga is a desktop synth that can be operated standalone in a wooden enclosure or form part of a Eurorack setup as a 60hp module. This week, Pittsburgh Modular has announced the Taiga Keyboard, a keyboard-equipped version of the synth that also features something we don't see in a great deal of hardware synths: a modular expansion bay.

The expansion bay offers 24hp of powered Eurorack space, meaning you can expand the synth with any modules of your choosing, augmenting its capabilities with anything from additional oscillators and filters to sequencers, effects or even a sampler. Pittsburgh says this means Taiga Keyboard can be "customised to meet the unique needs of any artist".

In addition to the synth's 37-key, velocity-sensitive and aftertouch-enabled keybed, you'll find dedicated pitch and modulation wheels. Taiga Keyboard's larger size allows for larger knobs and a more spacious interface, along with a second analogue LFO.

Aside from these upgrades, Taiga Keyboard shares the same architecture as its little brother. What's more, it's equipped with three analogue oscillators that offer four core waveforms alongside wavefolding and pulse-width modulation, running through a two-pole, 12dB/octave analogue filter.

Taiga Keyboard is priced at $1,299/€1,359 and it's available now. FM

AlphaTheta pivots from Pioneer DJ with high-end rotary mixer

AlphaTheta, the parent brand that owns Pioneer DJ, has announced the release of its first ever mixer. Euphonia is a rotary mixer, which means that it uses rotary dials to mix between channels instead of faders.

Euphonia is a hybrid digital/analogue 4-channel mixer built around a transformer circuit developed in collaboration with Rupert Neve Designs, which AlphaTheta tells us is tuned specifically for the unit, adding harmonics and culminating in a "glossy and energetic" sound.

The mixer is equipped with high-quality 32-bit A/D and D/A converters and uses 96kHz/64-bit floating point processing in its DSP, which powers a number of digital effects including reverb, tape echo, and delay. External effects can be hooked up with the help of the Send/Return section.

AlphaTheta is making a big deal of the mixer's elastomer-coated rotary dials, which have been specially designed to provide intuitive and precise control, and will vary in resistance depending on how fast you turn them; their volume curves have also been fine-tuned in response to feedback from DJs.

Euphonia's interface is split-level, with the top of the unit featuring a 3-band master isolator section with Boost Send buttons for applying effects, alongside a display AlphaTheta has dubbed the Energy Visualizer. Unlike a traditional VU meter, the display features a needle for each of the mixer's channels and a spectrum analyser for the master channel.

The remainder of the unit is taken up by controls for the mixer's four channels, which showcase a design that's closer to that of Pioneer's DJM mixers than it would be with a traditional rotary mixer.

Connectivity-wise, Euphonia is well-equipped, with four RCA outputs at both line and phono level, four coaxial digital inputs, and XLR and 1/4" TRS mic inputs. We have an XLR master output, 1/4" TRS booth output, and RCA output for recording, along with two headphone outputs, 1/4" and 3.5mm. There are also two 1/4" TRS sends and returns and a USB-C port for hooking up with Rekordbox, Traktor and Serato.

Euphonia is priced at £3,249, estimated shipment early July. FM

TALKING SHOP

Loukeman

The Toronto producer talks *Sd-2*, saturation plugins and pitch-shifting the master bus

Working under the alias Loukeman, Toronto's Luke Fenton makes fuzzy, fractured beats that sound like they're breaking apart at the seams. Lifting vocals from pop, indie and R&B, Fenton runs his samples through pitch-shifters and saturators to gift them with ghostly textures, before setting them against glowing synth lines and crunchy analogue drums.

There's no blueprint to Fenton's music; his latest project, *Sd-2*, takes in tempos spanning hip-hop to drum & bass, with a few fruitful detours into beatless ambience and guitar-led instrumentals along the way. The thread that ties the tracks together is Fenton's talent for recontextualizing unexpected samples through his truly unique take on effects processing, which makes everything sound beautifully degraded.

We caught up with Loukeman to hear more about the making of *Sd-2*.

How did you first get involved with electronic music-making?

"I started in university. My best friends and I just started making music. My laptop broke and I had FL Studio on it, so I got a new laptop and got Ableton, and from then on I was hooked, and I just started making beats every day. ."

Tell us about the background to the new project.

"The first record I put out, *Sd-1*, was very much just a mixtape. It was a compilation of beats. I was flipping random samples and making random stuff. I made it within a month, mixed it and I didn't even get it mastered. I uploaded it, and it chilled for a while and some songs got picked up. That was unexpected.

"*Sd-2* was different, because it's the first time I've put out music with some folks watching. It took me a little while to figure out what to do there. I spent two years nerding out on production stuff and just tried not to overthink it."

Talk us through your current home studio space? Is that still mostly based around the laptop?

"The bulk of it is laptop stuff – the real sauce is mostly the laptop. I have a few bits of hardware; a mixer and a few synths that I've used on both *Sd-1* and *Sd-2*. But most of what I'm doing is from the computer; pitch-shifting plugins, stuff like that."

Which hardware synths have you got?

"My favourite is the Oberheim Matrix-6. I use a few drum machines, too. I just got the Elektron Octatrack – it's really sick, I love it. It's so dense, but also limitless and super fun. I have the Analog Rytm MKI, too."

We love those. That compression and saturation stage on the Rytm's master effects is gnarly.

"Exactly. It sounds so good. *Winzzz* from *Sd-2* is like, completely Analog Rytm. Except for the vocal. I made the whole beat in the Analog Rytm with the master distortion and everything together. It's two stems, that project in Ableton."

Did you experiment with any new techniques on this project?

"Yeah. I spent two years making so much music, and then finished everything in a month. I was still learning how to make beats, and I still am, but throughout that period many things changed about how I make beats. Two years ago I was making beats in a very different way than I am now.

"Incorporating drum machines has been helpful. And switching up how I use samples; not necessarily flipping a sample but more like working it into a song so it's not as obvious. Making things a bit more fucked up and trying to go for more of a hi-fi sound, rather than lo-fi house. Either/or is cool, but I was definitely trying to turn up my mixing a bit."

Could you run us through a couple of plugins that are really fundamental to your workflow or your sound?

"The main plugins I love are pitch-shifting plugins. The worse they are, the better. I find when you pitch-shift things around, there's a crazy phase-shift, everything gets wide and washed-out in a really nice way. On the song *Idrk*, the whole track is pitch-shifted – there's a pitch-shifter on the master. I like how it glues everything together and fucks everything up."

Which pitch-shifters are you using?

"The Waves pitch-shifter for sure. I've been using the stock Apple pitch-shifter, AUPitch. That's the new sauce. I put that on everything these days. If you have an Apple laptop, it's in your plugin folder, because it comes with Garageband. It's got this tightness knob, and that's where you get this no-transient sound, so I just put that on drum loops and then print it. Even on the master it sounds crazy."

How about soft synths?

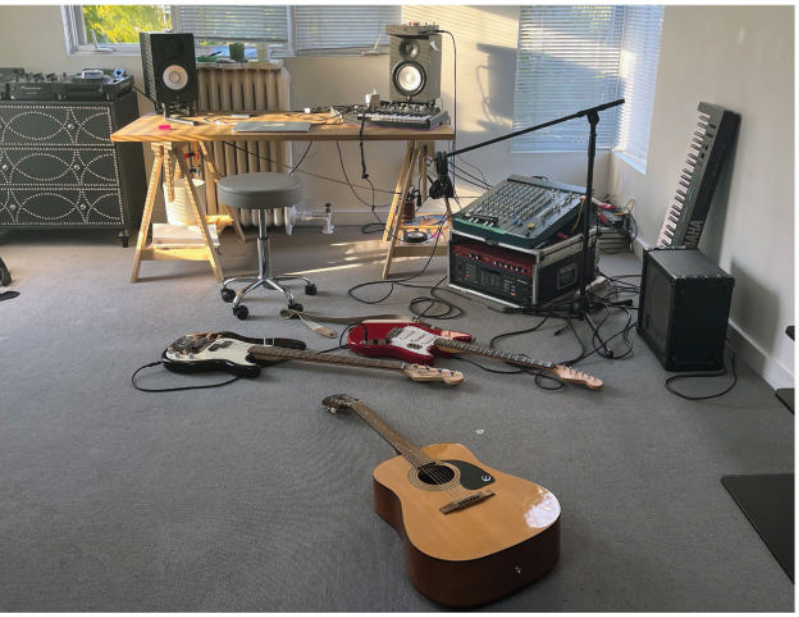
"My favourite one is the Waldorf PPG Wave 3.V. It's got no built-in reverb or delay, which is nice because I feel like those always sound bad. It's super dry and boring-sounding, which I love. It sounds like an actual synth. Ableton's Operator is all over everything too. Just a sine wave, pretty much, or a triangle."

We wanted to ask about your approach to saturation and distortion, it's all over the new project. What are some of your favourite ways to apply those effects?
"It's mostly plugins, or the Analog Rytm. That saturator is so good. I'll use a full drum group and saturate it, I always think that sounds so fire. I always have two saturators on the master too. I put Soundtoys Little Radiator on every single project. The Brainworx bx_saturator V2, too – that one for me always works well.

"I got this mixer recently, the Allen and Heath Mixwizard. This isn't saturation, but with certain reverbs, if you send too much into it, it turns into this mushy saturated thing. On *Idrk*, those drums, that one's a drum group from the Analog Rytm pushed into the reverb. It gets fucked up."

How often are you experimenting with new studio gear and software?
"I end up going to the same things all the time. But I'm super into new plugins and new gear… though that doesn't mean I'm making new things with them. It's just more fun. If you're bored of making music, nerding out on a new plugin or synth is just fun, and can inspire something. The core things I use are kind of all the same though. It's saturation pitch-shifting, and I use the Matrix a bunch."

What are the hardware or plugins on your studio wishlist?
"I want to get a Roland D-50. I was playing one and it was so much fun – it sounds almost like video game music. Maybe a Deckard's Dream too, if I had the money."



The guitar on the record, is that all you or is any of that sampled?
"*Baby You're a Star* is a sample, that's this random country song. *Jumzz* is me, and I had a friend play a solo at the end. I've been running all the guitars DI through the UAD amp emulations and iZotope Trash."

Sampling is a core element of your sound. How do you find your samples?
"I might hear something and save it, then download it and then very randomly work it into a project. I try to keep it fairly random. I'll go through a moment of downloading a bunch of samples, then I'll have a folder on my laptop, and I'll just start a beat, writing a melody. Then I'll go to find a sample to work into something. I'm rarely flipping a sample, starting with the sample. It's usually something I work in."

That's interesting – a lot of people will begin a track with a sample and build things around that instead.
"That's too much pressure on the sample. I don't know how to make it different if it's the only thing playing. Most of the time, I'll write chords, and then because you have to fit the sample to the chords, you've got to make it all fucked up. That's really cool. Starting with your own music and then fitting the sample in, that's my sauce."

We're curious about the vocal processing on *Baby You're a Star*. How did you get that sound?
"That's Mario's *Let Me Love You*. It's actually a replay of the song, it's not

actually the track. I'm using pitch-shifting and Melodyne for that. Melodyne has this polyphonic mode, where you can record in the sample, and then it'll be broken up into the bass, the mids, the highs. So you can essentially extract the vocal from that. I love how the re-pitching sounds; it's super phase-y and futuristic."

Do you use any stem separation software at all?
"I love the AI stem separators. I use a random one my friend put me on that works really well; it's a Patreon thing. I love the artefacts that come with the AI stem separators."

It's almost like the worse they are the better!
"Yeah. For me, that's the philosophy for most things; pitch-shifters as well, the worse they are the better!"

That's one of the things we like about your music the most; there's a degraded quality to the textures and timbres that makes it sound really interesting.
"I'm definitely paying attention to textures more than anything else. Most of the plugins I use, they're not doing anything major, it's just a subtle difference."

Speaking of texture, we wanted to ask about the synths on *Gorgeous Stuff*. There's a lovely crackle to them. How did you get that sound?
"That song is literally two tracks. It's the Matrix. Sometimes certain patches have this horrible crackle, and that one had it, and it was so bad and had so much crackle that it became part of the thing. I just ran through and played that once, then I did one more take with the Matrix, and I saturated it. It's just those two tracks."

We wanted to ask about *Brokenheart*, too. We love that Justin Vernon sample. Can you talk us through that track?
"I love Justin Vernon's acoustic stuff. I'll just download things from radio shows or acoustic performances he does, and I had that on my laptop. I had written the chords with the PPG soft synth and distorted them, and then I thought I'd get some opposite vibes in there with the sample. The drums are the Analog Rytm."

What about that descending synth line? It sounds like it's going through a really tight room reverb or something.
"That's a filtered vocal. That one's a secret. That's good you thought it was a synth, though. That's the plan – I never want the sample to be the whole thing, I want to mask it. For that, I'm using this software called Permut8, it's a Sonic Charge plugin. It's a flanger and a filter – it's a really cool plugin, actually."

You've produced for other artists on top of your solo stuff, right?
"My friends, mostly. Dyltwosix, he does a lot of the artwork. Also my friend Ian Mills. I'm actually at a farmhouse with them right now, just outside the city. We're here for a month just making music. Those are two of my biggest collaborators. Other than that, I try to focus less on people being talented musicians and more them being interesting people. If you're interesting to me, you can make interesting music."

Do you have any idea where you want to take your next project?
"It's gonna be a trilogy. *Sd-3* is gonna be a mixtape, I'm just working on it up here. It's going to be a bit more beat tape-leaning, and a bit more fun and lighthearted and random. I want to make something very rough around the edges." FM

WANT TO KNOW MORE?

Loukeman's *Sd-2* is out now.

Orbital
Orbital

FFRR, 1991

Funny, then, that it all begins with a '*Chime*'. Orbital's legendary track was indeed the sound of something new being announced and ushered in – the arrival of the brothers Hartnoll, and a new age of dance music. Industry bods took note of the UK's answer to Rhythim Is Rhythim's *Strings of Life*, and the next sound was chequebooks being flung open. As the dust settled, Phil and Paul Hartnoll signed with Pete Tong's FFRR, as advances were dangled.

"I was over the moon," says Paul "I could live for a year and a half off that money. Before, I'd been dishwashing. Now, we could concentrate on making music full-time, and buy some gear."

Putting in studio shifts in their newly kitted-out space in their parents' pub, Phil and Paul got to work putting together one of the most seminal debuts in dance music history.

"I couldn't believe that we could just write music all day," says Paul, with regards to the pair jamming out live sessions, adding soon-to-be iconic melodies and drum programming in on-the-fly.

"We didn't have any multi-tracking equipment," he says. "So, we'd get everything working in the studio and just run it out, live. Any manipulation or synth magic would happen as it was going down. And, if you didn't like it, you'd do it again."

Inspired by a love of early Warp records, chugging Chicago house and choice Belgian new beat, the siblings sonically experimented with their new Korg Wavestation, Oxford OSCar, and their workhorse 303 – all the while, propelled by fuel from their favourite fast food joint. "We'd always nip out to Hei's Chinese food and fish and chip takeaway," says Phil. "That really kept us going." Full of vegetable chow mein, egg-fried rice, chips and "the best curry sauce in the universe", the pair worked until each track was done.

"That was just how you did it, back then," says Paul. "You might not get that same sound again the next day. So, we'd do long sessions. Many times, going to bed at seven in the morning. But, we loved it."

Orbital's self-titled debut, aka 'The Green Album', is now available as a brand new, remastered boxset, via London Records.

Words by Roy Spencer

Track by track with **Phil and Paul Hartnoll**

The Moebius

Paul Hartnoll: "I remember the feeling of meeting at our parents' house and working from there, because they ran a pub. That was our HQ. I just remember arriving with that really warm, glowing feeling of – God, this is our day job now, writing music.

"When we started this track, I just remember it being the morning time. And it feeling really strange that it was valid, that you could just write music all day."

Phil Hartnoll: "We used the [Korg] Wavestation for this track. There's a lot of the Wavestation here."

Paul Hartnoll: "Yeah, lots of Wavestation on *The Moebius*. And I remember arriving and Phil also had the [Oxford] OSCar going, 'Bow! Bow! Bow!' and a [Roland] R-8 drum pattern. And I said, 'Okay, right, let's get cracking with that!' Then we had the Wavestation magic over the top."

Speed Freak

Paul: "This was a morning track, too. And it's called *Speed Freak* because it doesn't hold still. It's just jumping around the whole time.

"Speed? That was the 'drug *du jour*' of Kentish bikers and hippies alike. But you would have to go up to Tunbridge Wells to get things like that, I believe."

Phil: "I wouldn't know."

Paul: "I wouldn't know."

Phil: "I used to get mine from the London School of Economics."

Paul: "Oh, nice. It was either that, or the football hooligans in the Vine Tavern."

Phil: "Yes, that's why it's called that. It was kinda like your mind when you're on speed. The sort of amphetamine that a doctor might prescribe to you."

Paul: "I remember our mum was there when we were doing that one, because it was her day off. Probably going 'It's a bit loud', and making us cups of tea."

Oolaa

Paul: "That one was heavily influenced by the Belgian new beat style, with those kinds of…"

Orbital's seminal self-titled debut, aka 'The Green Album', gets a long-overdue reissue on 4xLP vinyl box set, 4xCD set (both coming with a 60-page hardcover book), and cassette tape. The wax comes complete with 'splatter' colourway, and the full project gets blessed with remastering from the band themselves.

The multi-format release drops for Record Store Day on April 19th. So, grab your copy via London Records. Or, through the official Orbital shop, to bag a signed print, while stocks last.

Phil: "Trumpets."

Paul: "Yeah, trumpets. And bands like Front 242, and things like that.

"And then our mate, Johnny, used to come around a lot, and he was a glorious cup-of-tea-maker. And he would just sit around while we were writing music, and just enjoy it and make comments, that kind of thing.

"And he was looking through our pile of singles, because my mum used to collect all the seven-inches off the jukebox in the pub. And he went, 'Oh, yeah. Look. Check this one out. There's a good sample on the b-side of this Jeff Wayne *War Of The Worlds* 45. And we went, 'Yeah, cracking sample'. And it just worked a treat."

Desert Storm

Paul: "Named after the conflict. We were just having our dinner and it came on the news. And we were like, 'Fuck!' And just named the track after it. It just seemed to fit."

Phil: "There wasn't an overarching theme to the album, though. It was a collection of individual songs."

© David Corio/Redferns

"The gig in Belfast was amazing. The wouldn't let us leave the stage. And it's the only gig where people enjoyed the track *Satan*, as well. We always insisted on playing *Satan* back then, but you'd play in Shelley's Disco in Stoke, and you'd see the white shirt/handbag brigade almost in tears. But in Belfast, they just embraced it.

"They just loved everything we did. We tried to get offstage and they're all clamouring trying to get on the stage to thank us. All with David Holmes just leaning on his decks, laughing, just going, "Play *Chime* again". It was absolutely brilliant."

Paul: "First albums are kind of your personal 'best of', aren't they? Like, 'Oh, we've got to make an album, let's just see all these tracks that we've written over the years – let's just use that one. Let's develop this one', you know? But we did write a lot of fresh stuff for this album as well – *Desert Storm* being one of them.

"It's a really long jam. I mean, it's 11 minutes on the album, but the full jam was way longer. That's why it fades up and out."

Fahrenheit 303

Paul: "We did three tracks with a [Roland] 303 bassline that we really liked. I think we'd just said, 'Let's just do three tracks in a day', or whatever. And one of them was *Choice*. One of them was *Fahrenheit 303*. And the other one never made it.

"And so, you'll notice it's the same bassline in both tracks, but it's used in a slightly different way. It's used as a high pitch sound, running a [Roland] SH-09, on *Choice*. And then it's you know, this raw, unadulterated 303 in *Fahrenheit 303*.

"What was that track all about? I don't know. It was because we were trying to do different things. It was like we thought, 'Oh, we haven't done a house version. Let's do a house one'. And, you know, to me, it's got that kind of Chicago house swagger."

Steel Cube Idolatry

Paul: "That was another new one. Little bit of Wavestation, but the primary sound is the OSCar doing its additive synthesis. And that's the one and only time we ever experimented with it. It was really great, but we never ever did it again. I think because it's a ballache to programme, but it was good fun.

"Again, trying fresh perspectives. Inspired by all the early Warp Records stuff. Same kind of vibe.

"The vocals came from some samples that Sasha had given to us when he remixed *Midnight*. We just chucked them in and went, 'Yeah, that works'.

"The track name came from journalist Paul Lester who reviewed a gig and absolutely trounced us, saying we were 'Two of the most boring looking lab technicians', and that we probably have track titles like, *I Dream of Plexiglass* and *Steel Cube Idolatry*. We just thought, 'Great title!', and used it."

High Rise

Paul: "For this one we worked out that you could transpose a 303. So we said, 'Let's just keep going up and up and up! And, as we get more frantic – does it build?' So, that was our attempt to do that.

"I mean, *High Rise*? It doesn't take much working out to think, 'Okay, let's name it after a tall building', you know? And it's quite ['70s animated kids show] *Mary, Mungo and Midge*, you know? With that, 'Diddly-diddly-diddly-dee' when they used to go up the tower [laughs].

"And then we got an actual recording of a lift. I had a couple of Tandy PZM [microphones] that I had stuck to a board, to get that kind of 'virtual head' feeling. And, the best lift I knew in Sevenoaks was from the car park in Waitrose, up to the main floor. So, this has a recording of that Waitrose lift, in Sevenoaks."

Chime (Live)

Paul: "For the album, we wanted to include versions of the songs that people wouldn't have already had if they'd bought the singles, so this is a live version. Value for money was of paramount importance to me, you know? I was coming from a point where, if I wanted to go out and buy a new record, I was working, like, three shifts in a pizza restaurant, doing the washing up. So, the idea of putting singles on records to me seemed like a rip-off.

"We had a live version of *Chime*. We'd record our live shows. That just was something that we used to do a lot. And it just seemed good to put that on. So, we put a couple of live tracks on for the singles, because we thought it would just be better than putting the single version on."

Midnight (Live)

Paul: "Components-wise this version is pretty similar to the single. It's a rawer version, because it's live. But, I think that it follows, roughly, the same kind of shape. That's what you tend to do, live, you know? You follow the big brushstrokes."

Phil: "It depends how long you've been playing it, over the years."

Paul: "That would have been quite fresh, as we'd have just done it. And then we'd have just been playing it live. So, it was fairly similar.

"But, I have noticed, because I've been forensically checking all this stuff out for playing it live, now. And they are quite different in their, you know, arrangements. The sections are all different. And drums come in at different points and things like that. But, ultimately, they're similar. They're as similar as two different live shows might be."

Belfast

Paul: "The story behind this was that we got asked by David Holmes to go and play in Belfast. He'd got a number for us from the *Chime* 12".

"Bear in mind, I'd never left Sevenoaks, only to go on holiday. So, we agreed, and flew from Luton, and they were absolutely brilliant. They gave us a really good tour, and took us to a lovely pub on the night before, and then we played in the Art College. It was our best gig ever. And our first encore. They just wouldn't let us get off stage.

"We stayed at David's mum's house. And the next day he asked if we had any demo tapes. I actually had a couple and gave him a demo that he loved, and we named it *Belfast* as it was so positive."

Phil: "It was such a beautiful track for such a beautiful night. There were Catholics, Protestants – all mixed together."

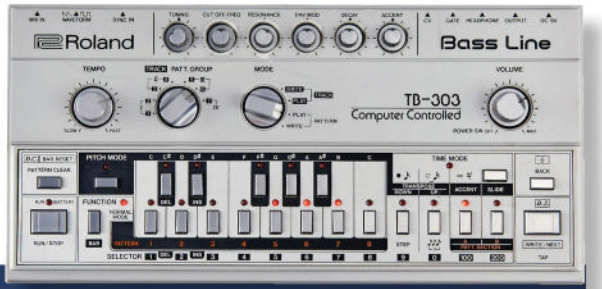
I Think It's Disgusting

Paul: "And we end on this secret track. It was just something fun to do, back then. It's just a little loop that goes around. I mean, the actual real track is probably about five minutes long. And it's here just it because it sounds like a bit of muzak. It's a bit of an easy listening loop.

"I just did a big kind of Hammond organ style solo on my [Yamaha] DX100 over the top of it and made it sound really scratchy and distant in the background." FM

WANT TO KNOW MORE?

For all the latest on the brothers Hartnoll, including links to the new reissues and live touring dates, head to **orbitalofficial.com**



In the studio with Paul Hartnoll

"We were using the Atari (ST). And the whole thing was recorded onto the brand new DAT machine that we just bought, in stereo. We bought a Korg Wavestation and an [Oxford] OSCar, some cheap effects units and a Studiomaster 16-channel mixing desk. Then we had a [Roland] R-8 drum machine, and a [Roland] SH-09. A Yamaha DX100. Tandy PZM microphones for recording outside. And we had to buy an [E-mu] Emax 2. Oh, and a [Roland TB-] 303, which we liked to experiment with. We've had that since the very beginning.

"All 303s have a mind of their own, too. If you take the batteries out, they make their own patterns up, or have that 'powering down' sound, which you've heard in other people's records. That sound that happens when the 303 runs out of batteries. The first time it happens, you go, 'Oh fuck! That's how they do it'. So, that's always fun to do."

LIKE IT? TRY THESE...

Orbital
Orbital (12" Sampler)
Promo wax, with the Belfast fave, *Satan*, and sweet remixes by contemporary big deals, Sasha and Moby.
ADD THESE TO YOUR PLAYLIST:
'Midnight (Sasha Mix)', 'Speed Freak (Moby Remix)', 'Satan'

Various
Belgian Beat & Hits
Late-'80s 'new beat' comp, and possibly the kind of tracks pricking up the Hartnoll's ears at the time.
ADD THESE TO YOUR PLAYLIST:
Confetti's – 'The Sound Of C', Front 242 – 'Headhunter', The Neon Judgement – 'Chinese Black'

Orbital
Midnight/Choice 12"
1991 single with a killer b-side, taking the same bassline out for a walk as album track *Fahrenheit 303*.
ADD THESE TO YOUR PLAYLIST:
'Midnight', 'Choice'

Various
Pioneers Of The Hypnotic Groove
Classic collection of early Warp Records beats and bleeps, and the kind of thing Phil and Paul would have been inspired by at the dawn of the '90s.
ADD THESE TO YOUR PLAYLIST:
LFO – 'LFO', Nightmares On Wax – 'Aftermath', Tricky Disco – 'Tricky Disco'

Orbital
Orbital
The 2024 remastered boxset, out now on vinyl, CD, and tape. First 1,000 orders include a 12" x 12" print of the artwork, signed by the boys.
ADD THESE TO YOUR PLAYLIST:
'Macro Head', 'Chime (Live)', 'Belfast'

MARK KNOPFLER'S GUITAR HEROES HIS ALL-STAR PROJECT: THE INSIDE STORY

PINK FLOYD HEY YOU THE 70s ROCK CLASSIC FULLY TABBED

PLUS!
JAKE BUGG KISS LIKE THE SUN
GARY CLARK JR. MAKTUB

TOTAL Guitar

PLAY BETTE[illegible]W!

THE GREATEST BLUES GUITARISTS OF ALL TIME

PLAY LIKE 15 BLUES ICONS

ALSO INSIDE:
The Black Crowes The Gaslight Anthem Sum 41
Gus G PLUS! PRS, Boss & EHX reviewed

ON SALE NOW

GET THE NEW ISSUE FROM WWW.MAGAZINESDIRECT.COM

SUBSCRIBE TO FutureMusic®

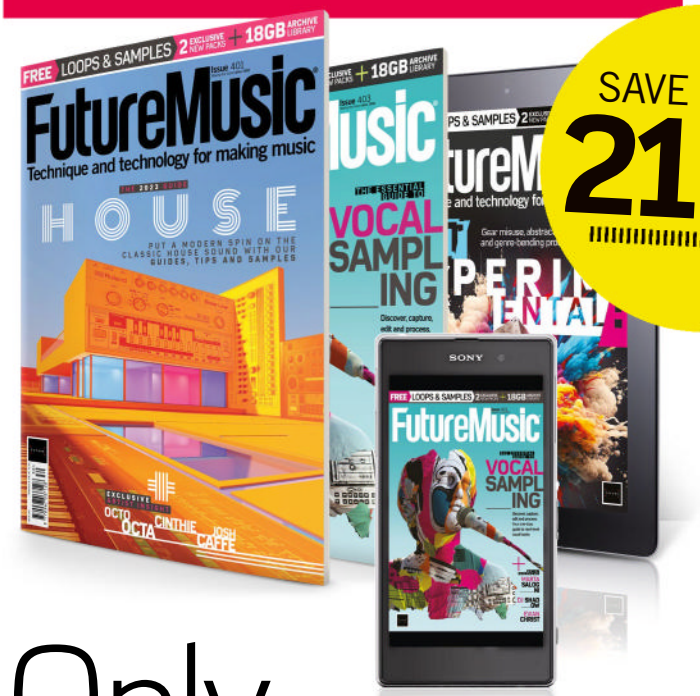
AND GET YOUR FREE FLARE 2 EARPHONES+*

FREE GIFT WORTH OVER **£40!**

- **Advanced Jet sound balancing technology**
- Precision turned from aerospace grade aluminium
- **Lightweight and comfortable fit**
  Driver diameter 10mm
- Microphone and controller capabilities

CHOOSE YOUR PACKAGE...

PRINT AND DIGITAL



SAVE UP TO **21%***

Only **£36.99**

every 6 months by Direct Debit.

DIGITAL ONLY

Only **£29.49**

every 6 months by Direct Debit.

SUBSCRIBE AND ENJOY THESE BENEFITS...

NEW! DIGITAL ACCESS TO 130+ ISSUES when you subscribe to print!**

FREE DELIVERY straight to your door or device

SAVE MONEY on the shop price

YOU'RE IN CONTROL – manage your subscription online via our dedicated self-service site **+ NEVER MISS AN ISSUE!**

Subscribe online at www.magazinesdirect.com/FMU/C98D
or call 0330 3331113 and quote '**C98D**'

Terms and Conditions. Offer closes 3rd May 2024 Direct Debit Offer open to new UK subscribers only. +Your gift will be delivered separately within 60 days after your first payment has cleared. *Savings are based of the cover price. Gifts only available to subscribers on the UK mainland. Gift not available with a digital subscription. Gifts are subject to availability. **Access to the digital library will end with your subscription. Please allow up to six weeks for delivery of your first subscription issue (up to eight weeks overseas). The full subscription rate includes postage and packaging. Please allow up to 6 weeks for delivery. Payment is non-refundable after the 14-day cancellation period, unless exceptional circumstances apply. For full terms and conditions, visit www.magazinesdirect.com/terms. For enquiries, please call +44 (0) 330 333 1113. Lines are open Monday-Friday 8:30am-7pm, Saturday 10am-3pm UK Time (excluding Bank Holidays), or email help@magazinesdirect.com. Calls to 0330 numbers will be charged at no more than a national landline call, and may be included in your phone provider's call bundle.

Let's make a track... in the style of Fred Again.. and DJ Seinfeld

Watch us build a melodic house track using FM's Sample Archive in under an hour

IN THE FIRST of our new video series, we've given FM contributor Leftie free rein of *Future Music*'s Sample Archive and challenged him to make a complete track in under an hour.

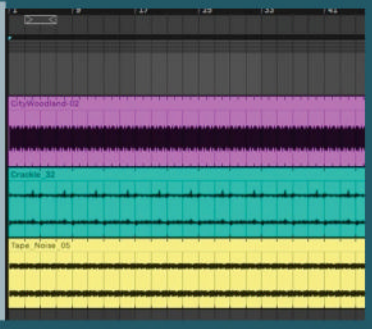
In part 1, he takes inspiration from melodic, sample-focused house producers like Fred Again.. and DJ Seinfeld. To create a full arrangement, he uses Fred's single *Hannah (the sun)* as reference. See how the full arrangement comes together in the accompanying video. Let's take a look at the key sounds used in our track…

INCLUDES VIDEO

Watch our full video tutorial and download the sample pack from this issue's download page

01

One thing that makes producers like Fred Again.. and DJ Seinfeld stand out is their use of found sounds and ambient textures. Our track begins by creating an ambient backdrop using some atmospheric recordings. For this, we layer up a cityscape recording, some vinyl crackle and tape noise. These are grouped together, then EQ is applied to remove low-end rumble.



02

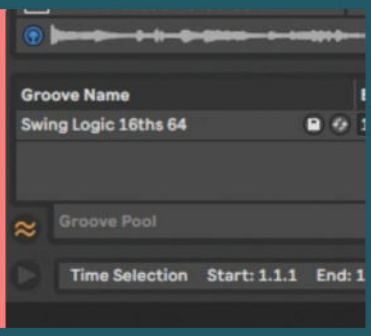
The beat for our track begins with a simple four-to-the-floor kick drum. We EQ this to remove a few sub frequencies and keep it controlled. This is layered with an industrial-sounding snare and hi-hat, both sliced from a processed, atmospheric drum loop from FM's Sound of the City Pack. These are sequenced using Ableton's Simpler to create a simple house beat.

03

To add groove to the beat, we layer in a thin shaker loop and a tambourine pattern. These are grouped and sit at a lower volume in the background. Sidechain compression is applied from the kick drum so that the percussion loops duck out of the way of the 4/4 kick.

04

The beat comes to life when we add a live drum break and a sliced beat loop over the top of the electronic elements. At the same time, we use Ableton's Groove Pool to add swing to the whole beat. We use the Swing Logic 16ths 64 rhythm applied to all of the percussive elements together, which adds groove and ties the beat together.

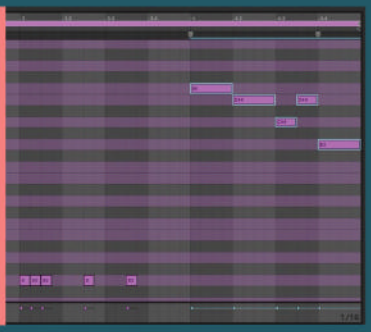


05

For a bassline we use a sampled 808-like loop with a lot of low-end power. This is sidechained against the kick, to avoid the two low elements clashing. For a melodic element over the top, we turn to Spitfire Audio's free Labs Piano, which gives a nicely melancholic sound that works great with this style of track. We use a simple 4-bar chord pattern in the same key as our 808 bass.

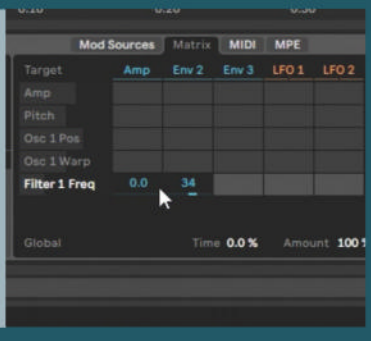
06

Next, we create a counter melody using a pitched sample taken from a drum loop. This is loaded into Ableton's Sampler, which we use to turn the short loop into a playable instrument. We then sequence a pattern designed to complement the piano loop.



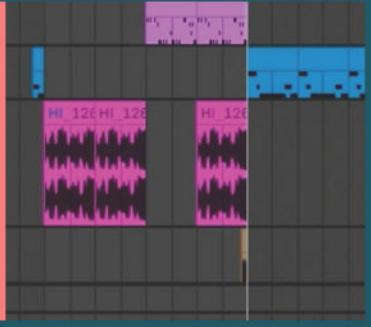
07

For an additional bass part, we create a simple synth 'pluck' using Ableton's stock Wavetable synth. We then program a pattern of 16th notes that follows the bass notes of our piano chords. We apply the same Groove Template to this as the drums, resulting in a swung, arp-like pattern. We EQ this so that it sits above our 808 bass sound, rather than clashing with it.



08

A choppy vocal loop from Ableton's factory library lets us emulate Fred Again..'s use of 'found' recordings and unusual vocals. The final elements of our track consist of some simple FX sounds – a riser, a downer and a loop of white noise, which we sidechain to the kick.



How can I quickly create new percussive textures for my drum pattern?

Choosing the right drum sounds for a track is vital, as they greatly influence the music's energy. They complement other elements like melody and harmony, enhancing coherence and ensuring the rhythm section supports the song's emotion effectively. Well-chosen drum sounds also elevate production quality, making the track more engaging.

Crafting Drum Racks with diverse sample variations enables quick experimentation with and customisation of sounds in Ableton Live 12. This fosters exploration of different textures, tones and rhythms.

Now, it's simpler than ever to swiftly and seamlessly generate drum racks with various sample variations in Ableton Live 12, by using the sound similarity search function within the Drum Rack and saving these sample variations to the User Library.

We'll start off by loading in an existing Drum Rack preset and sequencing a drum pattern. Then, we'll proceed to swap samples in the Drum Rack. Along the way, we'll save a couple of these sample variations, effectively creating new Drum Racks, and store them in the User Library.

THIS MONTH'S EXPERT

ANNA DISCLAIM is a London-based audio engineer, producer, educator and Ableton Certified Trainer. She offers both individual and classroom tuition for all levels and abilities. To find out more, visit her webpage: **annadisclaim.com**

01

Load a Drum Rack and generate a drum pattern

Begin by either loading a preset drum rack from the Library or crafting a new one. Then, construct a drum pattern in a MIDI clip for playback. Once completed, activate the "Show/Hide Similar Sample Swap Buttons" option in the Device Title Bar.

02

Swap all pads to similar samples

You can now use the "Swap All Pads to Next/Previous Sample" buttons, enabling seamless swapping of all samples within the Drum Rack. Try various sample combos while maintaining the drum pattern sequenced into a MIDI clip, all with a simple button click.

03

Refine the drum rack by swapping samples

You can selectively swap samples using the "Lock Pad for Similar Sample Swapping" options on each pad. This ensures certain samples are unchanged in future swaps. Or use the "Swap to Next/Previous Similar Sample" buttons to switch samples on individual pads, without affecting others.

04

Store diverse sample variations for future use

While you're in the swing of swapping samples in the Drum Rack, save selected variations to the User Library by selecting the "Save Preset" button in the Device Title Bar. This preserves custom Drum Rack configurations for future use.

© Mike Boyd

ALBUM OF THE MONTH

Claire Rousay, Sentiment

Thrill Jockey

Following formative years as a percussionist and stints in math-rock and evangelical worship bands, Canadian-American musician Claire Rousay has made a name for herself in recent years by pushing at the edges of ambient music. Previous albums have seen Rousay blending the genre's staple field recordings and drones with touches of alt-country, pop and a notable emotive streak. On *Sentiment*, described as an 'emo ambient' record, these genre experiments come to the forefront.

Largely focused on Rousay's heavily processed vocals and delicately plucked acoustic guitars, *Sentiment* is more of a narrative-driven album than Rousay's previous works, acting largely as a meditation on nostalgia and loneliness.

While the songs themselves are described as 'pop' by their creator, this is still very much a deconstructed and fractured take on a pop record. For every bonafide chorus there's a long passage of shifting synth and strings backed by a collage of field recordings. This overall fragmented form helps to underscore the themes of the album though, as traditional song structures wash past on a rising and falling wave of ambience and overheard conversations.

The overall effect is reminiscent of some of Grouper's most melodic and engaging work, but at times also brings to mind the intimate guitar recordings of Mount Eerie/*The Microphones*. The comparisons perhaps don't do *Sentiment* justice, though, seeing as it's clearly a very personal album that also feels like Rousay's most distinctive artistic statement to date.

Si Truss

ADD THESE TO YOUR PLAYLIST

Head, It Could Be Anything, Please 5 More Minutes

VERDICT 8.0

ON OUR PLAYLIST

SINGLE

Daniel Avery, *Wonderland/Running*
Fabric Originals

After the 'shoegaze rave' of his last album *Ultra-Truth*, Daniel Avery returns with a pair of more straightforward and up-front club tracks, released by the label offshoot of his spiritual home, London's Fabric. Both *Wonderland* and *Running* are pure peak-time stompers, powered by thick, distorted bass and meaty drum machines. However, while the atmospheric touches of Avery's albums are dialled back here, they're not completely absent, as seen in the ethereal vocal hooks of *Wonderland* and *Running*'s cavernous, echoey synths. *Si Truss*

EP

DJ Polo, *If The Glove Fits*
Livity Sound

Livity Sound has long established itself as a home for some of the UK's most rhythmically-complex and creative dance music, and this latest EP from Bristol's DJ Polo is no exception. Across four tracks the producer mashes up influences from UK funky, garage, dubstep and footwork with a healthy influence from various strains of African electronic music. The EP's title track blends frenetic, DJ Rashad-like drum flourishes with almost trance-like rhythms and skippy tonal percussion. The EP is at its most interesting on the slower bpm tracks, however, such as the afrobeat-influenced closing track *Burndown*, which punctuates swung percussive lines with washes of bass and dub-like synth effects. *Si Truss*

ALBUM

Wrecked Lightship, *Antiposition*
Peak Oil

Wrecked Lightship is a duo composed of Adam Winchester and Laurie Osborne, best known as Appleblim and founder of the influential Skull Disco label. *Antiposition* is their third album in as many years and their liveliest release to date. The most obvious genre touch points for the tracks here are techno and D'n'B, at least in terms of rhythms and tempos, but the real emphasis is on the intricate and detailed sound design. Tracks like *Sunken Skies* and *Bizarre Servants* sound like late night club tracks submerged beneath a sea of glitches and effects, while *Diminished Ark* is like UK techno played back by a computer in the process of powering down. It could all sound somewhat messy and disjointed were it not for its creators' obvious sound design talents. *Si Truss*

RECOMMENDED

Various Artists, Club Moss

Wisdom Teeth

ALBUM

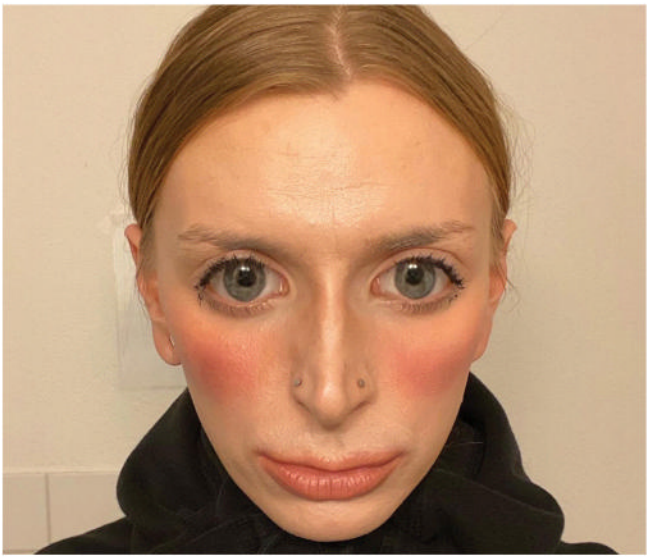
Launched in 2014 by British producers Facta and K-LONE, Wisdom Teeth is one of the UK's most innovative electronic imprints. The label's remit is far-reaching, with recent releases such as Salamanda's *In Parallel* and Tristan Arp's *Sculpturegardening* edging further from the dancefloor and into the dreamworld.

Club Moss is a compilation release that invites 14 artists from the extended WT family to apply their talents to tempos between 150-170bpm. Yushh and LUXE deliver amped-up spins on ambient techno, Airhead takes us on a lysergic flight through a reverb-drenched stratosphere, and RAMZi ignores the brief altogether, but our favourite of the set, Maya Q's *Starburst*, cleaves closest to an established template, pairing soul-stirring vocal cuts with featherlight breaks. *Matt Mullen*

VERDICT 7.5

aya, Lip Flip

Self-released



EP

Some producers take such a radical approach to sound design that it makes the next thing you listen to – whatever it is – sound just a little dull in comparison. Dripping in detail, aya's *Lip Flip* EP is a catalogue of fried and distorted electronics, coming together to produce a sense of gloom and unease fit for dark, smoky rooms and powerful speakers.

Stripping out the effects-fried vocals found on her last full-length project for Hyperdub, aya invites Ugandan MC Ecko Bazz to contribute loose and limber rhymes to the raucous opener. But the smoke clears on the title track, which revives her former alter-ego LOFT for a broken techno speedrun fuelled by a neon-bright hook built from finely sliced chords. *Matt Mullen*

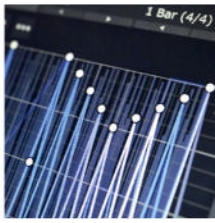
VERDICT 8.0

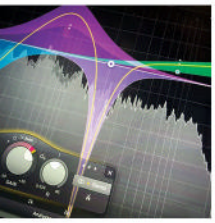
HOW TO MIX SMARTER AND FASTER!

GO-TO EFFECTS CHAINS

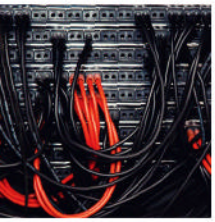
MIX LIKE THE PROS!

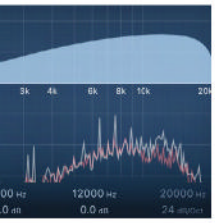
Ever find yourself struggling to capture that 'pro' polish? Do you find your tracks lack that hard-to-define quality that separates an amateur-sounding mix from the releases you hear from your favourite artists? Fear not. We've all been there – and we're here to help. This issue, we've sat down with a varied selection of producers, engineers and artists to quiz them on their essential mixing advice and studio insights. Over the following pages you'll find tips to help you work faster and smarter, from the start of a session to finishing that final mix.



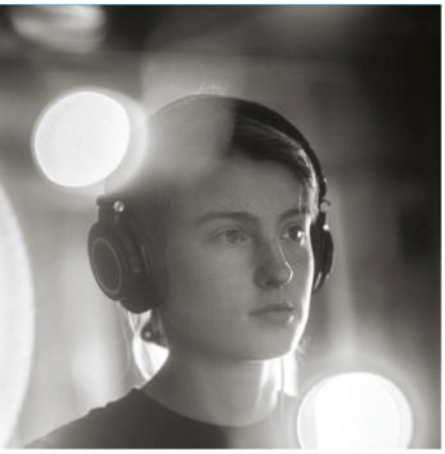


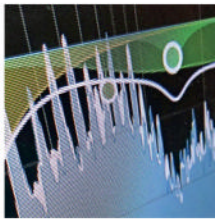
MASTER PROCESSING EXPLAINED





HOW TO BUILD A TEMPLATE





PRODUCTION POWER TIPS FROM THE EXPERTS

We've gathered some of the best studio minds to come up with some incredible insider tips on all aspects of music production, from getting prepped for a session, to finishing a mix, with some invaluable advice from start to finish. If your music is stuck in a rut or on a demo downer, then these experts can lift it from mix hell and make it shine…

The age-old question in music production is "why doesn't my music sound as good as my favourite artist's?". It's the creation of what you think is the greatest piece of music ever, and then that moment when you A-B it with the work of your go-to musical hero, the quality level of which you were aiming at all along. But your music is just not 'there', not as loud, as present, as well mixed… It just doesn't sound 'pro'. So what are you going to do about it?

The obvious 21st century solutions are to sign up for a course, read dozens of features online, or watch a gazillion YouTube videos with 'experts' who claim to have the answers if you dive in, like and subscribe. Or, what you could do, is ask the actual experts. And that's what we are doing with this feature: simply asking a range of artists, engineers and producers who have, in one way or another, been there, seen it and done that. Or more importantly heard it and solved it.

They've all come face to face with exactly the same dilemma as we and you have had with music – how to raise the production stakes – but they've broken through, successfully tweaked, organised, mixed and mastered their craft to the point where they are making a living from it. And in some cases a pretty good one.

So pause your videos, drop your tablets and prepare to hear some words of wisdom, some sage studio nuggets from the experts; 'horse's mouth' tips to help you turn your ideas, rough demos and potential masterpieces into release-ready, stream-ready, and definite door-opening downloads.

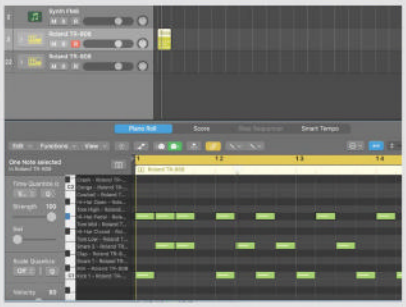
IT'S ALL IN THE PREP

The first must-do action our experts advise before anything else in music production is to get organised, and this goes down to DAW level.

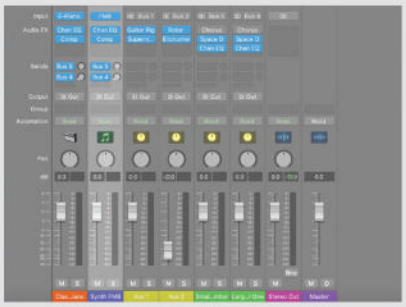
Producer/engineer Mark Rankin is a stickler for getting everything prepped before an EQ is tweaked: "I set up the session with correct tempo, then organise and colour code the files. My system is drums (in order of kick, snare, hi-hat, toms, overhead and room mics), then bass,

TEMPLATE ESSENTIALS

1 Common features in templates include creating tracks for favourite instruments with colour codes used across all of your projects, so you quickly get used to knowing where your parts are. Then add section markers for intro, verse, chorus, bridge and so on. If your DAW allows for instrument graphics, you can use these as well as using colours (or instead of).



2 For drums, load in your favourite kit or drum machine plugin. For dance producers having your favourite kick (or kicks) on hand in a sampler is always a great idea, or even have favourite kick patterns and loops already set up on audio channels either as audio or MIDI files.



3 If you're recording vocals and guitars, you could set your audio input channels up with EQs, compressors, exciter and de-essers for the former, adding amp sims, expanders and limiters for guitar parts. And while we're talking effects, some producers advocate setting an EQ and compression up on every channel in their template, and having more creative effects set up as different sends – basic reverbs, delays and so on.

guitars, keys, strings, FX, lead vocals, backing vox and effect sends. Then I'll run through the song and add markers that are numbered so I can easily jump between sections. The aim is to be able to navigate around the song with ease, because if I have an idea, I want to move fast."

"When I start work on a mix the first thing I do is get the session prepped," agrees producer/engineer Rhiannon Mair. "I load the stems into Pro Tools, check each track, and label everything, including group stems. Sometimes I use a session template with my auxes and go-to plugins ready to go. I like to get the 'admin' part of the mix done before I start EQ or compression."

Templates are indeed a brilliant way to get organised and save time at the start of your session. Pretty much every DAW lets you set up template sessions – basically your own bespoke setups with maybe channels all set up with your favourite instruments, EQs and compressors, and guitar and vocal record input channels and sends set up with favourite plugin effects. Simply set aside a morning to create a template for each of your different working practices and you will save this admin time at the start of each session. We have some template essentials laid out in our first step-by-step walkthrough.

RHIANNON MAIR

Producer, engineer, songwriter and drummer Rhiannon Mair has been immersed in music production on just about every level after being nominated for Breakthrough Engineer and Producer at the 2019 MPG Awards.

Not only has she worked with artists including Laura Marling, Bryde, Kimberly Anne, Charlotte Clark, Laura Brehm, Martha Hill, Natalie Shay, and Emma McGrath – with the resulting music on Radio 1, 6 Music, and Spotify – but she also produces music for film and TV, including shows for the BBC, Netflix, Sky, and Channel 4. Current projects include an EP for LANTA and production music for Universal Music. She is also the co-founder of music publishing company Palm Bay Music.

VOCAL RECORDING

One thing all of our experts agree on is that vocals can make or break a track, and it all comes down to the quality of the recording. An early consideration, they say, is the room your vocalist is in, and Rhiannon's advice is to try and find the least reflective space possible.

"I always prefer to get vocals sounding as dry or natural as possible as it makes the mixing process far easier. If you don't have access to a studio then recording vocals in a bedroom can sound OK or using something like a reflection shield helps massively. Back when I was at uni I used to hang a duvet in my bedroom cupboard and set up a mic in there and it sounded alright. I've always preferred getting the vocal to sound great beforehand by picking a mic and preamp that suits the vocalist and sits well in the track. All I usually need is gentle compression and EQ as all of the hard work has already been done."

MARK RANKIN'S 'HYPE BUS'

1 "A good trick is the hype bus," says Mark. "With drums, for example, route all of them to a dedicated bus (bus 1). This can have EQ and compressor, but nothing too extreme. Then make a copy of that bus (bus 2)."

2 "Mute bus 1, and on bus 2 add +8dB at 60Hz and +8dB at 12kHz on the EQ, then go extreme on ratio and threshold on the compressor and play with attack and release until it's pumping and super exciting."

3 "Bring down the fader on bus 2, unmute bus 1 and then slowly add bus 2 in. You can try this out on other instruments and vocals too. One rule, to avoid phase issues, is to keep the same plugins on each bus."

Mark Rankin has recorded possibly the most famous vocalist on the planet in Adele and he advocates compression all the way. "It helps a lot when recording vocals but it's easy to overdo it. I like to give the singer something to push against, so I'll have a compressor on the input chain that is hitting the loudest parts -3dB to -6dB, nothing crazy. But then I'll have an aggressive compressor on the monitor chain that's not being recorded but is being sent to headphones. This gives the 'finished' vocal sound, but is a bit of a safety net and can be dialled back later if something is too much."

DEMO ISSUES

A lot of our producers and mix engineers might find themselves having to work from existing recordings, and receive demos of varying quality that they have to mix into shape or use as a starting point. So what is the most common issue when it comes to demos when they receive them?

Mark Rankin adds: "From a mix point of view, it's usually a lack of dynamics or sound issues with tracks sounding muddy or thin. It often comes down to the fact that people have spent a lot of time and energy to get it to where it is, and now perhaps can't quite see the wood for the trees."

Katie May, head engineer at Real World Studios, agrees: "It can be muddy in terms of frequency and stereo image. Multiple guitars might be panned centrally and have too much low end that might sound great in solo, but when listening in context are battling with the bass and/or kick. I think a really important part of the mixing process is finding a defined space for each instrument to sit, and a lot of unmixed material I hear can sound very 'mushed' together."

"For me, it's where there are parts that overlap either sonically, rhythmically or harmonically," agrees Rhiannon. "When I start working with a demo I usually strip it back to vocals and accompaniment and then start bringing in parts individually, and make a mental note of what needs looking at or rearranging. I always ask the artist for a reference list and their previous tracks to get an idea of where they're coming from and where it is that they want to go."

> "WHEN I START WITH A DEMO I USUALLY STRIP IT BACK TO VOCALS AND THEN START BRINGING IN PARTS INDIVIDUALLY"

Real World Studio's Tim Oliver advises simply to look past the mistakes of a demo: "By its nature, a demo is always missing the skills of a professional recording engineer and producer – it sounds rubbish and lacks a coherent sonic narrative. The skill of any producer, label bod or engineer is to hear past that and imagine what it can be."

MIXING MASTERCLASS

Tim uses that ethos as the first step of his mixing process. The next, for him, is mixing the all-important vocal: "I work on the vocal, if there is one, to best enhance its nature, adding compression, EQ, colour/saturation, and space," he says. "Everything has to hang around the vocal, so it's good to have it sounding great for reference as you build the backing track."

Mark Rankin has a very specific order to his mixing that we could all learn from. "I'll get the heart of the song running, usually that's drums and bass. With live drums, I start

MARK RANKIN

Double Grammy-award winning producer and engineer Mark Rankin has recorded some of the finest vocalists in history including Adele, Florence Welch, and CeeLo Green.

His very first sessions were with Basement Jaxx a couple of decades ago, but he is now based in LA working on albums with everyone from Harry Styles to Delta Goodrem, and he is one of the regular studio cohorts for Queens of the Stone Age.

© Courtesy of www.markrankin.co.uk

with the overheads and ambient mics as they contain the 'air' around a kit. Then I'll bring in kick and snare and EQ and compress those so they're solid. Bass is next and it's important to nail how that interacts with drums. Same with guitars and synths, if they're all working together it creates momentum and life in the song.

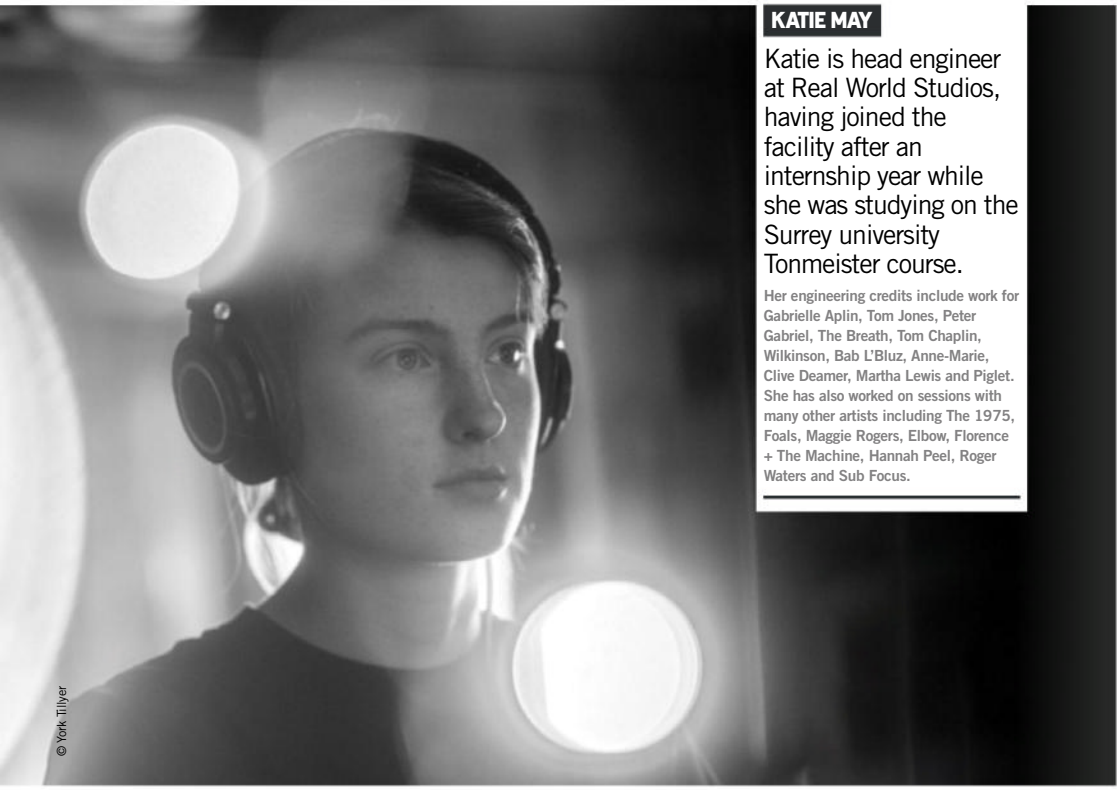
"Lead vocal is next," he continues. "It needs to interact with the instruments but also have a clear space to thrive. This could be a small slap delay or short reverb that's not distracting but makes the vocal better. Make sure the effects are suited to the style of the song and the emotion is showing through. If it's a fast or busy song then maybe a long reverb isn't helping."

Katie May has a similar approach to a mix: "I start by getting a rough fader balance before moving onto each individual instrument. As a drummer I tend to start with the rhythm section, firstly making sure all of the drum mics are in phase. This is a really easy step to miss but can have an incredibly big impact on the final drum sound. It's surprising how many mix files I get where the snare top mic is out of phase with the snare bottom mic. If they are out of phase, as soon as I flip it the snare will suddenly sound really natural and fat, meaning all I have to do is polish what I already have instead of fighting hard with EQs.

"Once the drums and bass gel, I'll add in the supporting layers one by one, and tweak until it's sounding good. This involves rolling off the low end of most elements while listening in context to avoid any unnecessary muddiness. I personally like to get the instrumental sounding ace by itself before mixing the vocals in, which might be a controversial take. That said, I truly don't think there should be any rules to it, and if your method gets you the results you're after then don't question it!"

Which is great advice, but what do our experts believe is the one key factor that raises a demo from 'demo' status to 'release' ready?

Katie replies with: "It's the mix engineer not being afraid to do extreme things like hard panning or



KATIE MAY

Katie is head engineer at Real World Studios, having joined the facility after an internship year while she was studying on the Surrey university Tonmeister course.

Her engineering credits include work for Gabrielle Aplin, Tom Jones, Peter Gabriel, The Breath, Tom Chaplin, Wilkinson, Bab L'Bluz, Anne-Marie, Clive Deamer, Martha Lewis and Piglet. She has also worked on sessions with many other artists including The 1975, Foals, Maggie Rogers, Elbow, Florence + The Machine, Hannah Peel, Roger Waters and Sub Focus.

KATIE MAY'S VOCAL MIXING TECHNIQUES

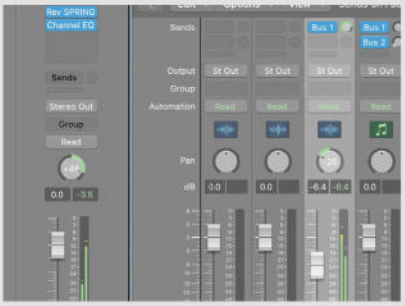
1 "When mixing vocals, don't be afraid of compression, especially if you're going for that upfront pop sound. You can get away with a surprising amount of gain reduction without the vocal sounding too squashed as long as you set your attack and release times carefully."

2 "I would suggest you play around with multiple reverbs to get a vocal to sit in a mix well. I often use a shortish plate as the main reverb for vocal and then combine that with a longer hall type of reverb that is low in the mix to get it to gel with the rest of the track."

3 "Even a really subtle instance of Valhalla Shimmer with those two works well if it's not overdone. To me it's the kind of thing where you'd notice something's missing if you muted the hall and shimmer 'verbs but you wouldn't know what that something is. They really should just be supporting elements."

KATIE MAY'S WIDTH TRICK

1 "An easy trick to create a natural sense of space in a mix is to first pan an electric guitar further left or right than you'd normally feel comfortable with."



2 "Then offset that with a reverb send to the opposite side. I personally love having dark spring reverbs on guitars that are panned to the opposite side to the dry track."

3 "You can then control the level of the spring until there's a good balance of width and space for the track. Instant width when you've only got one guitar track to work with!"

extreme EQing. There are absolutely no rules to mixing, and if you're not having fun with it then maybe think about changing up your workflow. It should be an exciting process: mangling guitars with distortion or old delays, or putting vocals through amp sims when you need a bit of extra grit – anything that makes your mix sound interesting, grabs the attention of the listener, and most importantly, serves the narrative of the song."

Mark Rankin's advice is to make sure the lead elements have space to shine. "If you have a killer vocal let the other instruments support that. Spend some time working on the atmosphere that you're trying to create on the song. Ambience can transport the listener into the room with the band or artist. Automating instruments so that they come into focus when there's space can help keep things simple and keep the listener engaged."

Rhiannon's tip is possibly the most interesting yet: don't bin the demo! "Usually, some part if not all of the demo ends up in the final track and I can't count how many times I have used demo vocals in the final version."

Tim's advice is more abstract but no less interesting: "I think the magic happens when you find the glue that makes the piece work. This is key and isn't always one thing. It can be finding the tonal centre of the track, the motor of the groove, or the energy of the vocal. Something will make it resonate and the skill is finding that and building around it."

So there you have it, practical advice, hands-on tips, more philosophical thoughts and some mixing magic to help take your demos from ordinary to extraordinary. But before we go, the end of the feature seems as good a place as any to ask our panel how they know if a mix or piece of music is done?

Katie May: "I listen to lots of music in the car so am very used to the sound of it, and find it a really good way of judging how the low end translates across different systems. If I find myself getting excited by the way it sounds while I'm driving to work then the mix is probably done. As soon as your body reacts positively to a mix then you've done your job."

And finally the sagest words on finalising a mix come from Tim Oliver: "A mix is never done, only ever abandoned. My tip would be – shut down and go to the pub." FM

© Oz Owen

TIM OLIVER

Tim is senior consulting engineer at Real World Studios, and also runs his own successful studio on the campus.

He has worked alongside a huge number of high profile artists and bands over a 35-year career, including New Order, ACR, Stone Roses, Happy Mondays, Robert Plant and Sinéad O'Connor. He also oversees Real World's Producer Camps during which musicians, writers and producers of all abilities get together to record over several residential sessions in Real World's incredible 'Big Room' studio.

© Will Spooner

GEORGIA

Solo artist, collaborator, songwriter, producer, remixer and drummer Georgia Barnes is also a self-confessed synth nerd, which she has every right to blame on her upbringing. Here she explains how she works within that electronic world with producers and artists including Rostam, William Orbit and Olly Alexander…

Having been born and raised in a studio where one of the most iconic electronic albums was recorded, Leftfield's *Leftism*, it's no surprise that Georgia Barnes is something of a synth geek. "My dad brought me into studios from the age of six," she laughs. "There's an actual picture of me as a kid on my dad's Juno on a Leftfield 12" somewhere!"

Her dad is Leftfield's Neil Barnes, but rather than living in the shadow of the legendary producer, Georgia has carved out her own successful career, with more strings in it than one of her classic synths. She has produced three solo albums, including the Mercury Prize-nominated *Seeking Thrills* in 2020 and last year's *Euphoric*.

Then, there are the collaborations where Georgia has variously drummed, rapped, sung, programmed, remixed or written for artists including Jessie Ware, Gorillaz, Mura Masa, Years & Years and William Orbit.

Being active in so many strands of music is key, she says – "there are so many avenues to explore so I'm doing as much as I can, and just take the opportunities" – and with such a varied set of opportunities already taken, who better to ask about raising your game?

How do you approach working on a remix or production?

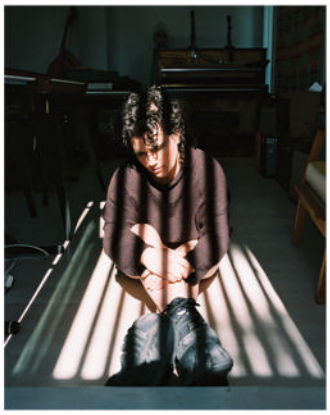
Georgia: "The vocal is what draws people in, so I make sure I understand what the singer is trying to convey, and then create the world they want. Some producers will chuck everything in, but because I'm a singer I'm concerned about anything getting in the way of the vocal."

How does it work with a typical collaboration for you?

"Sometimes I get demos, just the skeleton, the singer and maybe some guitar. And then it's just put the 'Georgia world' into that. Sometimes I'll start from scratch with an artist. Every song is different, an amazing world and within that you can go anywhere. I'm not traditional and approach it quite experimentally. I don't use that many plugins, I'm just really obsessed with synths."

What is that 'Georgia world' of synths?

"I was fortunate to be introduced to it at an early age – literally born in a flat surrounded by synths where Leftfield made *Leftism*, so my love for synths is born out of that. The first synths my dad introduced me to were Korgs – he got me a Poly 6 and a MonoPoly. As I got older, a Minimoog Model D came in, one of the greatest synths with such great bass sounds."



© Daniel Topete

What do you use now?
"I've got the Model D, my Korgs and my Rolands. I divide them into how they benefit a mix so I've got my bass synths like my SH-101, I love the bass sound on that, it's just house music, and I've got the Minimoog there. I've also got the Behringer Poly D as I wanted to see the difference. It's brilliant; an original Model D is gonna set you back seven or eight grand, and those Poly Ds are about 600 quid. My original Model D is from 1971 and has a warmth to it which you can't really recreate, though.

"I've also got loads of digital synths like the Roland JD-800, and recently got a Groove Synthesis 3rd Wave. My dad goes on about the Waldorf Wave being the greatest synth, so wavetable synthesis was something I wanted to get into. I also splashed out on an original ARP 2600, probably the best thing in my studio."

When you get a production project, remix or collaboration, are people expecting you to bring these synth sounds in?
"I don't think they do. Very often it's a combination of A&Rs and they are fans of what I do and think I can bring something to their artists. But when it came to Olly Alexander from Years & Years, he'd heard about my studio and wanted to see it. Some artists are intrigued by synths and are really hands-on."

What advice would you have for recording vocals?
"It often doesn't matter what mic you use; that's a bit of a myth. A lot of great vocals that we know today were recorded on cheap microphones. And don't be afraid of comping – it doesn't have to be one great take. Also, sometimes use the demo vocal as the final vocal. That happened on *Euphoric*. With a demo, often in that moment, a singer has expressed something that can't be recreated."

Do you have a system when mixing?
"I think methodically. I put the vocal and drum stems together. This comes from me being a drummer and a singer, but I find those elements are so important. Then I add the bass, synths, guitars and percussion. I learnt this through [producer] Mark Ralph, he laid out everything before he got creative. Then you can see the elements and plan. I'll solo elements, understand the lyrics, put the vocal front and centre, and then go to whatever synths or guitar elements I need."

What else besides the vocal do you focus on when producing?
"The low end. It can lift something from demo status to complete mix. It's not something everyone thinks about but I make sure it stands out."

Do you have certain go-to production processes?
"The vocal goes through Neve 1073 preamps, and then into an 1176 compressor. I learned working with Rostam [Batmanglij, who worked on *Euphoric*] that you can put any mic through that combination."

How do you know when a mix is done?
"I always know! Some producers go through, like, 70 mixes. I'm very much of the mindset, 'the mix is done, let's get it out there'. If the vocal is sitting right, whether it's going to cut through on the radio, then I'm like, 'let's just go.'"

What one piece of advice would you give people creating demos with the hope of releasing them?
"If it's pure electronic music, then there has got to be an element of fucked-up-ness about it. There's so much drab electronic music, but there should always be something in it, a sound where you are like, 'Jesus – what is that?'. That one sound where they've gone 'fuck it, let's just leave that in.'"

What is your advice to people wanting to get into the industry?
"It's an unsteady period, but there are avenues to explore and make a great career. It just requires a bit of getting yourself in there. It's hard work but I like that. 80% of it is problem-solving. I spent most of Christmas soldering leads! But seeing a song that you've written being performed or hearing it on the radio, I love it. And also, sharing a studio with people, moments when they expose themselves in such vulnerable ways, that psychology is really interesting."

We have to ask: any more plans to collaborate with your dad?
"Maybe. How they created *Leftism* is mind-boggling, and I respect that. But it would be hard. We might end up killing each other!" **FM**

"80% OF BEING IN THE MUSIC INDUSTRY IS PROBLEM-SOLVING. I SPENT CHRISTMAS SOLDERING LEADS! IT'S HARD WORK BUT I LIKE THAT"

© Daniel Topete

© Zarina Rimbaud-Kadirbaks

SCANNER

Electronic artist, producer, gear explorer, film composer, and modular master Robin Rimbaud has been releasing music as Scanner and other acts for more than four decades. Here, he gives us a more electronic expert viewpoint on what separates a demo from the finished article…

Robin Rimbaud's early adventures as Scanner included sampling mobile phone conversations by way of a police scanner, but since then he has been involved in a vast range of other projects. He has been commissioned for sonic art installations by prestigious organisations including the Tate Modern and collaborated with artists including Musique Nouvelles, Michael Nyman, Alexandra Strunin, and opera singer Patricia Rozario.

Rimbaud has also soundtracked many films and other media, curated exhibitions and always been at the cutting edge of music technology. His latest projects include new label, Alltagsmusic (Everyday Music), which he set up, "to release both my own solo works, but also collaborations with other artists, as well as live album, film, ballet scores and more," and he also presents an electronic music show, EarSpace, on Slack City Radio.

Robin owns some extraordinary gear and an amazing space in which to use it. Who better, then, to cast an electronic eye and ear over what turns DIY electronica into release-ready music?

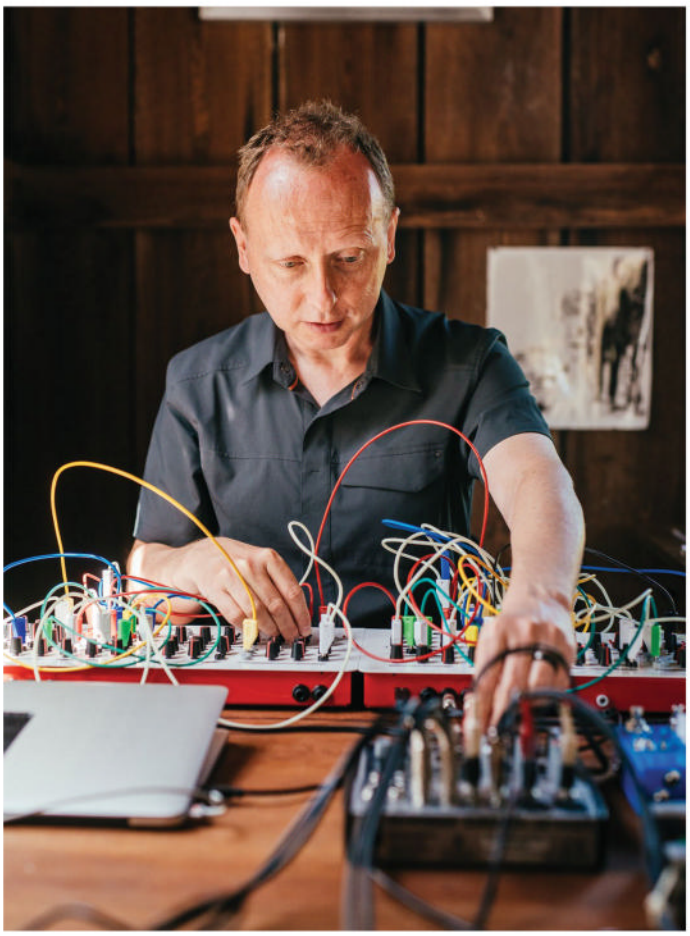
What are the most common issues you hear with electronic music that hasn't been professionally mixed and mastered?

Robin Rimbaud: "If I see the audio file is peaking, like a huge concrete block, then I'm cautious. I can turn up the volume – you don't need to do this for me! The strength of a piece of music should come through beyond the sheer volume. Sometimes I would rather hear a roughly recorded demo than a saturated blast!

"Mixing is often an issue, especially regarding EQ and sounds battling for attention. Far too many ambient tracks have too much reverb. Reverb has an important role to play in all styles of music, but when it becomes the focus, I question: what *is* it hiding?"

How do you know when a demo has potential?

"I try to act like a casual listener, what you might call 'inactive' listening – the strength of the music can break through any routine, something that can stop me in my tracks and encourage me to want to learn who the artist is. If I've listened to a demo and forgotten what it was by the end, that's not a good sign."



© Mark Poucher

If there was one piece of advice you could give to people creating demos with the hope of releasing them, what would it be?

"Don't send an hour of music to a stranger, send 10-15 mins of your strongest material. No label or producer has that level of commitment. Today, someone sent me almost *five* hours of music. Come on guys, be considerate!

"And remember, this is an art, not a science, so don't get hooked on every frequency or aspect, don't get lost in the story you are trying to tell. Some of the best music was recorded in a bedroom with a couple of cheap microphones."

When mixing your own or other people's music, what's your 'to do' list?

"I'm a great reductionist, so I play a kind of sonic Jenga. What can I remove, so that the work remains resilient and yet still tells the story? For my music, I'm not working with more than six to 10 stems. For my new album, *Alchemeia*, most tracks had no more than four stems. But if I am producing or mixing a band it can easily be 40 stems.

"So I work systematically through the groups of instruments, muting everything and focusing on the drums, for example, finding a good balance, and using compression, EQ and saturation to get the cleanest, warmest sound. I repeat this with each instrument, balancing out close mics, DI recordings, etc. In the end I'm not trying to actively mix 40 channels of audio, but just a handful.

"For my own work, I remove unnecessary low end, and reduce channels battling with similar frequencies. I often use Soothe2 by Oeksound to round off edges on percussion, guitars, synths and anything that might bite like an angry dog.

"I leave the mix alone at the end of the day and mix it down to stereo. The next day, or later, I return to listen to the mixed file, not using the screen, but playing it on my laptop, or phone speaker to compare how it works on different devices. Taking time away from any recording is absolutely essential to the process.

"I've been using the Softube Console 1 and Fader since they first appeared and they've helped enormously. Stepping away from the screen and mixing with faders, adjusting levels and EQ has been

life-changing – using my ears and not my eyes!"

Do you have a particular plugin process that you like to employ?
"It's simple: I begin with EQ to balance out each sound, removing highs, balancing lows, then add compression and balance the levels. Any effects are on send and return so I can add as little or as much as I want."

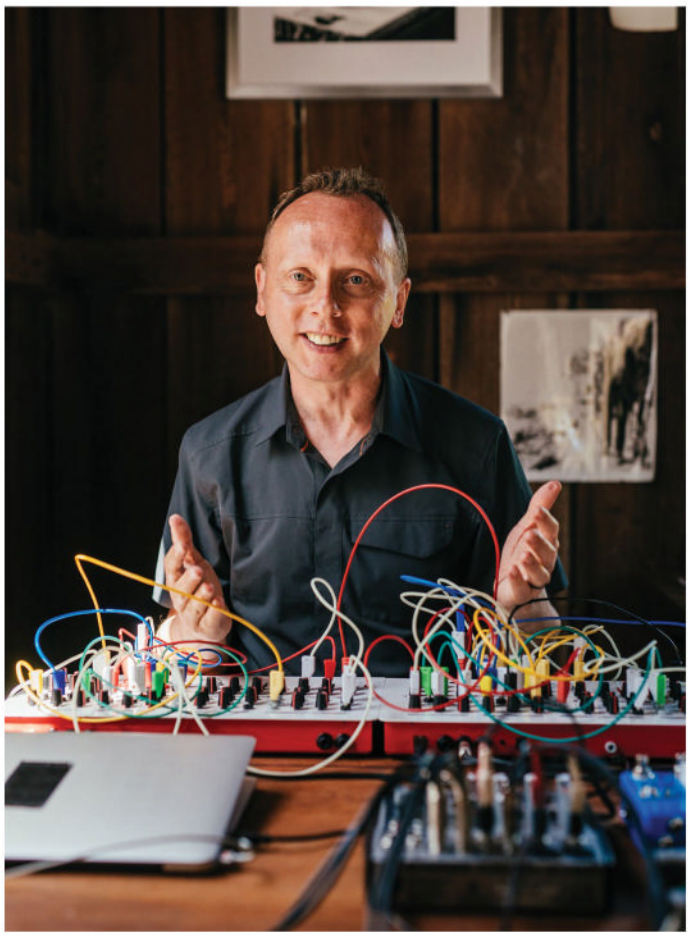
What is your most common 'I wish I didn't have to do this' process you find yourself doing?
"I love mixing down, to reveal what's possible from these sounds, all sitting there unbalanced, roughly edited, noisy, strange and quirky waiting for my attention! Having said that, my hearing isn't the best, and so I need to use a spectrum analyser so I can physically check that my mix isn't going to assault someone with younger and better ears!"

You've worked with some incredible technology. What are you using these days?
"My studio, Fabriek 180, is in a former textile factory with six-metre high ceilings and three-metre high windows. I only work during daylight, never in the evening, never at the weekend. I begin early and finish early. I've kept this discipline for years – it helps to maintain focus.

"I have a generous amount of hardware and software which includes a Buchla 200e, a Serge system, Elektron, Roland, some of the usual suspects and plenty of one-off, weird builds. And, of course, some truly inspiring software. I consider these a little like a well-stocked kitchen, where I can make a sonic meal out of some ingredients. So sometimes it might be using my old Yamaha SY22 synth with my Fostex 280 4-track, at other times purely software."

What is the one thing in the production process that lifts a demo from being ordinary to extraordinary?
"The ability to surprise, giving breathing space to a track, for example. Don't always consider it a linear work that has to build, but surprise in interesting and intriguing ways: a tempo change, a switch in dynamics, a moment of silence – anything that catches the ear." **FM**

***Alchemeia* is out now on Alltagsmusic (Everyday Music).**



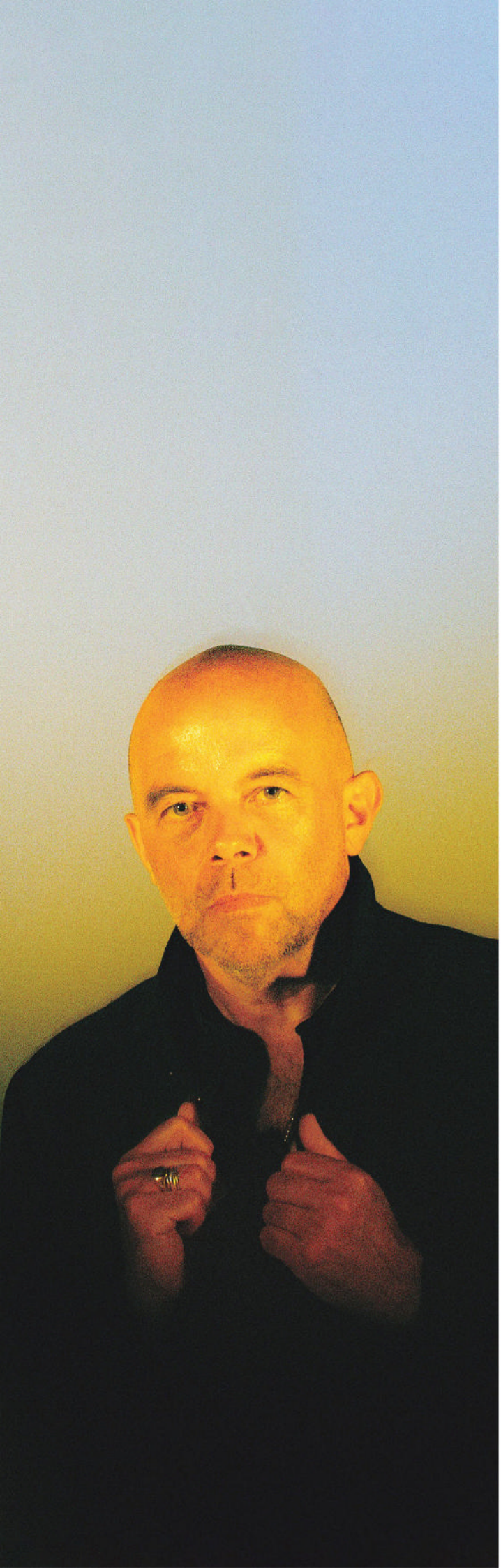
© Mark Poucher

"I USE A SPECTRUM ANALYSER SO I CAN PHYSICALLY CHECK THAT MY MIX ISN'T GOING TO ASSAULT SOMEONE WITH BETTER EARS!"

RIDE

Ride frontman Mark Gardener chats to **Danny Turner** about the shoegaze tag and the driving force behind their seventh album, *Interplay*

© Cal McIntyre



INCLUDES VIDEO

Labelled 'shoegaze' by the British music press for their overt use of guitar pedals during live performance, Oxford-based four-piece Ride garnered significant success for their psychedelic, guitar-drenched approach to alt-rock. Although initially compared to the equally pioneering My Bloody Valentine, Ride would take a more melodic, song-driven approach as emphasised on a trio of early EPs that set the stage for their 1990 debut album, *Nowhere*.

As the band progressed with chart-friendly albums *Going Blank Again* and *Carnival of Light*, Ride began to move above and beyond the shoegaze pack to become one of Britain's last great rock bands until creative differences caused relationships to fracture. By the time they had released their fourth album *Tarantula* in 1996, co-guitarist Andy Bell had largely taken over vocal duties from Mark Gardener, before himself departing prior to the LP's release.

Following a 20-year sabbatical, Ride proclaimed they had "unfinished business" and returned in 2017 with *Weather Diaries*. Produced by Erol Alkan, the album harked back to former glories, garnering immediate critical acclaim. Now releasing their seventh album, *Interplay*, as the title suggests, Ride's fractured relationships are long since repaired and their seamless chemistry rarely more apparent.

How do you feel about Ride's association with the shoegaze genre? Has it been a benefit in terms of helping to cultivate an audience or pigeonholed you into an era?

"Initially, shoegaze was a derogative term that was thrown at us by English journalists when grunge and Nirvana kicked in because we were obviously not them. It then became a genre-describing word, but it's hard to know whether it's been a benefit or not. It's a pretty broad church in the sense that anybody that uses a bit of atmospheric guitar suddenly becomes 'shoegaze', and I suppose we're seen as early pioneers alongside My Bloody Valentine and Cocteau Twins. I'm a huge fan of both bands because they make great, interesting music, but for me it's just about writing good, atmospheric songs. If I think of the genre as a 'sound', it's not that interesting."

It was interesting to read Andy Bell say that The Smiths were quite inspiring to him, which can also be detected in your sound, on occasion…

"When I think about our influences back then, I was into rock stuff, early hip-hop, electro and ska, but The Smiths were a big coming together for Andy and I when we were at school. They really spoke to me, alongside obvious classic '60s bands like The Beach Boys, The Beatles and The Velvet Underground, who were important in relation to how we wanted to present ourselves. When Steve [Queralt, bass] came into the band, he was working in a record shop and had first dibs on some really new and contemporary bands at the time. So, if you combine all of that, you'll definitely get the sound of Ride in the early days."

You had your first taste of fame in the early-to-mid-'90s. Did you try to chase that success or have the wisdom to sense that might be a mistake?

"I wouldn't say I had a lot of wisdom back then, but I never expected Ride to go off in the way that it did in terms of us getting signed to Creation and being their first band to get into the charts. I was happy that it happened, but it was all

very fanbase-driven because a lot of people would buy our record in the first week, which threw us in the charts at a high position. I immediately felt quite awkward because I knew that our success was unsustainable and that the media tended to build people up then knock them down. Nothing really prepares you for fame and it's a strange feeling – you only really understand it when it happens to you, and maybe that's why bands such as Primal Scream and ourselves gravitated more towards dance music and clubbing, so we could feel anonymous again."

In those days, the music papers had a lot of power to influence people, for better or worse. Is it a relief that's all in the past or was it all part of the fun?

"It was part of the fun. Even though you might not agree with A&R people and journalists and we could tell that they had an agenda or were a bit bitter because they wanted to do what we were doing, there were filters that don't seem to exist anymore. I used to buy and read all the music press, and I'd be lying if I said that bad reviews didn't affect me, but like you said, it's a totally different world now. These days, pretty much anyone can release a record, but back then you had to be pretty good to even get in the papers or signed by a label."

"THESE DAYS, PRETTY MUCH ANYONE CAN RELEASE A RECORD, BACK THEN YOU HAD TO BE PRETTY GOOD TO EVEN GET IN THE PAPERS OR SIGNED BY A LABEL"

© Joseph Branston

Ride didn't release anything between 1996 and 2017 amidst talks of acrimony. Was that partly a result of feeling you'd achieved everything you'd set out to?

"I didn't think we were playing to our strengths anymore and there was a lot of stuff going on individually. It was chaos, really. Andy and I had been in each other's pockets for years and real life pulled us all over the place. Because we got to places we didn't really expect, when the singles started to fade it felt like we were on the way out, which is what happens when you get into that numbers game until you realise that art and good songs are about creating something timeless. We were young and really poorly managed, too. Rather like Creation Records, what made Ride good and interesting was that we were like a car that was gathering speed and momentum but always a little bit out of control. It was always going to crash into the wall and that's what happened to us and Creation. Then Oasis signed to them, which changed everything."

When you returned in 2017, there was talk of unfinished business. What did that specifically mean to you?

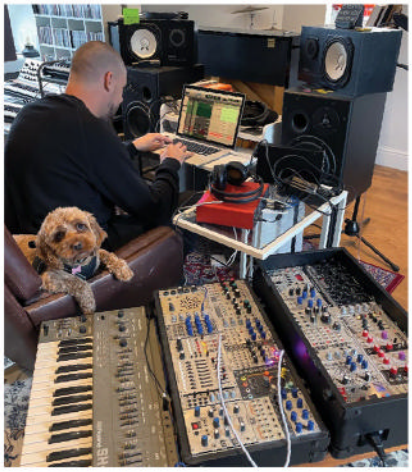
"To me, it meant that when all the stuff I just talked about had gone because the bubble had burst and we'd spent enough time away from it, we realised that we'd made something that had stood the test of time but could still come back and make some really great new music rather than do the whole heritage thing. While we didn't get on that well towards the end of *Tarantula*, there's always been a good chemistry between us, and we're good when we're in a room together. I guess we felt that there was still a lot more music in us."

Do you believe the chemistry that a lot of highly successful bands have is accidental or honed over time?

"I do think it's down to alchemy, but like any relationship you need to work at it and keep people on track. The nice part about that alchemy is that it's not an exact thing, which drives you mad at times, but at other times the experience that comes from it is transcendental and amazing. With this latest album, *Interplay*, we came through a lot of adversity due to Covid and a hideous legal case with an ex-manager that we'd fired, but those experiences also served to enthuse, strengthen and remind us of what the music is all about."

You've obviously been back together for a while, but after a 20-year break, did you notice you were all much better as musicians, individually and collectively?

"I did, and a lot of that is to do with technology. This is going to sound so ridiculous, but in a lot of ways we were just stoned silly boys the first time around who had no idea what we were doing. The noisy guitars would drown everything out and the monitoring was so bad that we couldn't hear each other very well. Andy and I do a lot of harmony singing, but during the '90s I don't really remember ever hearing him sing on stage. Being able to actually hear each other has made us much stronger and more consistent, especially when we play festivals."



When you returned in 2017, you enlisted Erol Alkan to produce two albums. Why appoint a dance producer?

"Being so entrenched in the instrument, I think guitar bands then like to experiment more with synths at some point, whereas synth bands like Depeche Mode did the opposite and drifted towards guitar. Erol was Andy's mate and I really like him. Of course, he was known for being a DJ, but he's totally eclectic and has produced other indie bands. He's great at getting performances and it was cool to see him work with a drummer as good as Loz [Colbert] who could actually play those beats. He was also great at sequencing and helping us to select songs that were good or didn't need to be put on an album."

You didn't go with Erol for your latest album, *Interplay*, but did continue with Richie Kennedy who is a close associate of his?

"When we worked with Erol on [2019's] *This Is Not a Safe Place*, we did some work at Battery, which is Flood's studio and Richie had already worked a lot with Flood and Alan Moulder. We noticed this guy who was well trained and super-proactive. Initially, I was engineering the album and mixing everything myself as it was coming together. On tracks like *I Came to See the Wreck*, I was jumping between the control room and the live room, recording vocals and then pressing stop. I was wearing far too many hats and just wanted to be another guy in the band, so I put an SOS call into management, and when Richie came in I was totally liberated. He added some good stuff to tracks that were already written and was a great sounding-board for this whole process."

How have things changed in terms of how Ride initially used to record tracks and how you work together today?

"A lot of this record came from us being in a room together and jamming to get instrumental ideas together. Having been separated by Covid, we were just happy to be back as a group, but we'd also bring in ideas that we'd been working on at home. Loz and Steve would work on stuff and I'd jump on those takes and turn them into a song with vocals and a top line. Originally, Andy and I were the guitar players and singers, so it was more obvious and easier for us to present ideas in that way, but laptops have been liberating for us all. Loz and Steve always had loads of great creative ideas to offer, but they do a lot more of that now so it's more of a team effort."

What sort of ideas might they bring to a session?

"Loz is the drummer, but he won't just bring in a drum track, his rhythms are very musical and Steve loves his synths. *I Came to See the Wreck* was pretty much formed and we used a lot of the original parts from Steve's demo, which was actually very Boards of Canada-sounding before we added vocals and guitars to create a Ride track. At first, we called all of the tracks place names, for example, *Peace Sign* was initially called Berlin because it had a Krautrock feel, and that came from us all jamming and recording in a very freeform style. We called the album *Interplay* because it felt like we were reacting in a room in a similar way to our first recordings."

Do the lyrics draw on what you've been through as a band or are they more politically motivated as that becomes more important to you over time?

© Joseph Branston

"As well as being in Ride we all have to work and get bills paid, so politics does come into view as sometimes you can't believe that certain things are actually happening. We're not like Oasis who made their millions – we're in the same boat as most of our audience. Apart from that, I've always been a magpie in the sense of being influenced by anything I watch or read. Once we've got the music down, I look at notes I've scribbled down to see if I can use some of them, but it's a bit of a strange process. A track like *I Came to See the Wreck* was like a therapy for me – it exorcised a lot of demons that I'd been feeding as a result of the isolation of Covid and a break-up that led me to move out of my home in Oxford and into the studio for a while. You want to feel that the words and music can merge seamlessly with your mood and raise your emotion when you sing them to people, and I certainly feel that with tracks like *Monaco*, which reflects on how everybody's been smashed to pieces in this country and living to work rather than working to live."

We also read that the sound of the album is signposted by '80s artists that you have a newfound appreciation for. Can you expand on this for us?

"We talked about the shoegaze thing earlier and the bands that have influenced us, but Andy and I did a Mark Hollis tribute at one point and had forgotten how great Talk Talk actually was. I grew up listening to a lot of '80s stuff like The Cure's *Head On The Door* and Tears for Fears' *The Hurting*, which was an album that I used to listen to in bed on headphones when I had mad dreams of being in a band one day. It's comforting to go back to that when you're feeling a bit knocked around by life, so it's in the mix along with everything else, but I'm not trying to guide the music in that direction or look at anything other than trying to serve the music that's in front of me."

Is your studio, OX4 Sound, mostly based on gear you've personally collected over several decades?

"I love digital tools and the fact that you can work in the box, but my studio's really geared around coming out of the box. The studio is centred round a Solid State Logic AWS 948 console, which I love. SSL is actually based just down the road from me and I love dealing with them because they're old school. I've also got an old Neve KELSO, which is really punchy, lots of Thermionic Vulture valve outboard gear, and some Massive Passive EQs because I do a lot of mixing and mastering here. I still love using valves and what proper outboard gear does to the sound of music, but I love digital too. The combination of the two is the sweet spot, but the console is an instrument in itself and integral to the process of making music as much as the guitars that we use."

So it's very much about coming out of the box and running everything through analogue to add character to the sound?

"80 to 90% of my mastering process is analogue, which puts a warmth, depth, width and weight back into the music when it comes out of the box. People always say 'my god, whatever you've done sounds incredible', but half of that is about putting stuff through great gear and having a balanced room, otherwise you're all over the place. It took me a while to get my head around all the gear I have and I had to spend a lot of time learning about it in isolation, but I feel very in control of those tools now and know how to get the best out of them. I'm definitely a gear nerd, but I had to stop otherwise I'd have gone bankrupt."

FURMAN
AMS NEVE
UNIVERSAL AUDIO
6176
MIDAS
XL42

EARTHLIMP
FLASHBACK
tc electronic
REFLECTOR
STAGE PIANO
VOLUME

DYNACORD

FURMAN
TELETRONIX
Distressor

KICK IN
KICK OUT
SNT
SW
HATS
RACK

© Joseph Branston

"I DON'T MIND MIXING FOR OTHER BANDS, BUT IT'S QUITE HARD TO MIX SOMETHING WHEN YOU'RE PART OF A BAND BECAUSE YOU DON'T HAVE ANY OBJECTIVITY"

How do you run a professional studio while circumnavigating the desire to continually upgrade a lot of what's in it?

"At the moment, we're trying out some amp simulation stuff because it's becoming so expensive to travel with amps these days and are going to start A/Bing the difference between a real amp and the digital versions. In the early days of Ride, Andy and I found these Roland GP-16 guitar effects processors, which had lot of effects in one unit. They were pretty cool and sounded good, but if they go down you've suddenly lost all your sounds and that happened to us a couple of times. I like the workmanship that goes into pedals and boxes and use a lot of Strymon stuff, which sounds great and is really strong for the road."

Once you find the right guitar, are you ever compelled to change it?

"My main guitar is an orange Gretsch Chet Atkins vintage model from 1964 and alongside that I play a '90s Rickenbacker 12-string. I've also got a lovely vintage Fender Lake Placid Blue Jaguar, which is beautiful. I'm too worried to take that on the road in case something happens to it, so it's become my go-to studio guitar for any soundtrack stuff and I use it all the time. Otherwise, I have collected a few others and recently started playing a nice Gibson Les Paul, which features on the album. It's great that they sit there and look pretty when various bands come into the studio, but they're also there to be used."

We understand that you got the tracks on *Interplay* to a certain level before decamping to Vada Studios at the suggestion of Richie Kennedy?

"We'd been working at OX4 for a long time, so it was nice to change the backdrop and go to a different studio. We were only there for a week, but it worked well for Andy to decamp to Vada and perform some lead vocals. I was actually only there for about three days and did try to do some vocals, but we came back to thinking that the original vocals were better. From what I remember, that process was mostly about improving stuff that we'd already got down."

Was mixing the album a group activity?

"Initially, I did the mixing myself, but when Richie came on board I passed that on. I don't mind mixing for other bands, but it's quite hard to mix something when you're part of a band because you don't have any objectivity and I know how lost you can get when your head is in a track. I did a good early mix of *I Came to See the Wreck* and a few others to prove their worth and presented some of the tracks that were a bit more fully formed to management and people outside of the band. That put a line in the sand in terms of how we wanted the tracks to be mixed with the idea of other people coming in and take them to another level, which they did."

What's this we read about you getting back into painting as a result of The Cure's Robert Smith?

"It's funny, because Robert does this great thing where he raises a lot of money for heart research. He got in touch with me to ask if I fancied doing a postcard painting that could be auctioned off, with Robert adding a lyric or something. I remember saying to him at the time, 'Robert, you do know that I've not painted in anger since art school?' The first attempts I did were terrible, but I really love possessing gem stones as artefacts – the spheres are like little mini planets. I bought a shamanic moonstone near Glastonbury and always kept looking at it, so I decided to paint that. The person who bought the postcard worked out it was me that had painted it and I've ended up doing quite a lot of private commissions for a few other people that led to someone asking if I could do more for an exhibition. When I was at art school I only wanted to do art if it was related to music, and now I've been taken back to the person that I was but with a lot more confidence to paint impressionistic stuff on canvas."

Perhaps you could paint some Ride cover art for future releases?

"I'm certainly not trying to be the next John Squire [laughs]. I like doing this because it's outside of Ride and something that's therapeutic, but also quite instant. It's also nice because people will pay you for it rather than just download it, and I like working in an industry where if the consumer wants something they actually have to pay for it." FM

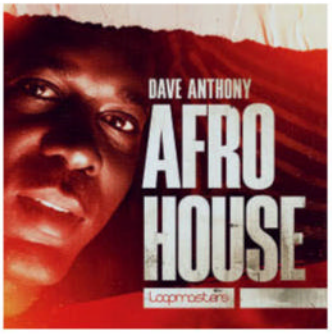
WANT TO KNOW MORE?

The new Ride album, *Interplay*, is out now via Wichita Recordings/PIAS. For more, visit **thebandride.com**

Loopcloud

The Only Sample Subscription You'll Need

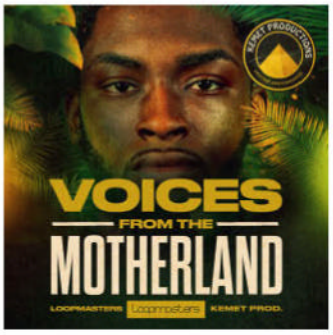
Loopcloud TRENDING



Loopmasters

Pick a free sample pack with any purchase

New Releases



Best Sellers

Trending

Label Highlights

Native Instruments Kontrol S61 Mk3

Get up to date with NI's latest hardware ecosystem, discover how it works… and what all those acronyms are about

Native Instruments sells a lot of stuff. In addition to a huge history of developing its own plugin instruments and effects, it also sells those of its partners, Plugin Alliance and iZotope, as well as facilitating licensing and downloads for Kontakt and Reaktor developers. The company's Komplete package has always been huge, but we didn't think it would get quite this big! But that's just the software side of the company's offering – the hardware is where this all gets brought together.

NI's hardware offering is led by the Maschine groovebox controller, Traktor DJ controller, and this, the Kontrol keyboard line-up. The idea is that you can use hardware to control NI-made and NI-supported software, preferably without ever having to touch your computer (although it's not exactly mission accomplished yet). NKS (Native Kontrol Standard) is a standard that plugins can support in order to be usable with both Maschine and Kontrol, meaning that many third-party plugins are available within the ecosystem as well.

Let's zoom into the specifics of how the Kontrol keyboards work in practice, and how they can help people to make music.

Klever Klogs

Once setup is complete, the intention is that you can load NKS-supporting instruments and control them from the Kontrol keyboard. Not only do the notes you press on the keyboard get to the instrument – which is standard of course – but the Kontrol keyboard's light guides also integrate with the instrument, showing the correct colours for, say, a Kontakt instrument and its keyswitching.

Going further, each instrument also lets you control a selected range of parameters from its interface, using the knobs next to the screen, which of course also gives you some extra visual feedback. Some plugins give you access to their entire control set, thanks to those eight knobs and the left/right arrow keys to scroll through parameters. All without leaving the keyboard.

On the patch level

One of the huge revelations of this whole ecosystem is browsing at patch-level. Instead of choosing a synth and then finding one of the sounds within it, you instead search through patches from all your synths

together. If you search by category – for a pad, say – then the list will be filtered down to just pads from all your synths. You browse through all patches and hear previews as you go.

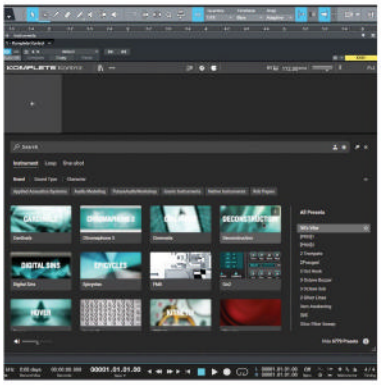
Your chosen pad may end up loading in FM8, in Massive X, in Rounds, Form, or any third-party instrument you have installed. This lets you focus on great sounds rather than specific synths.

Taking Kontrol

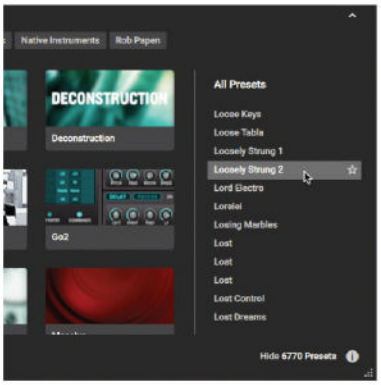
While those are the two biggest factors, there's plenty more to discover about Kontrol, and we'll show you using our own Kontrol S61 keyboard. We'll cover DAW control, plugin control, building up track ideas, and even using the Kontrol keyboard directly with Kontakt. But first, we'll do some of that quintessential patch browsing.

NI's hardware line aims to tie together its now huge line of software instruments and even effects with hands-on control

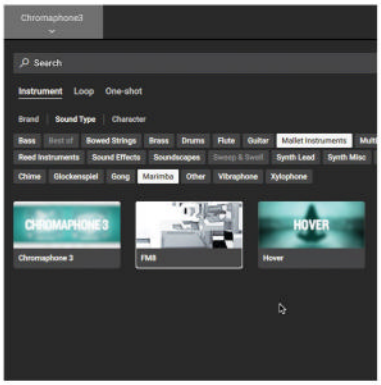
Searching through NKS sounds in your DAW



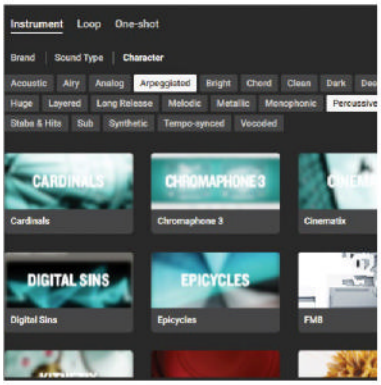
1 Once your Kontrol keyboard is installed and running, loading the Komplete Kontrol plugin in your DAW takes you to a screen like this. You can select instruments or sound packs at the bottom, hosted by Komplete Kontrol, which is useful…



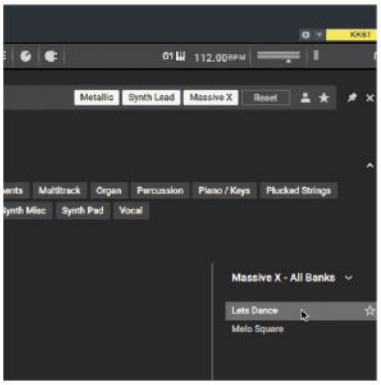
2 …but we'll focus on the bottom-right 'Presets' section, where you see the presets from your installed NKS-compatible instruments. Clicking each one plays a preview sound, eg Massive X in one, or a third-party instrument in another.



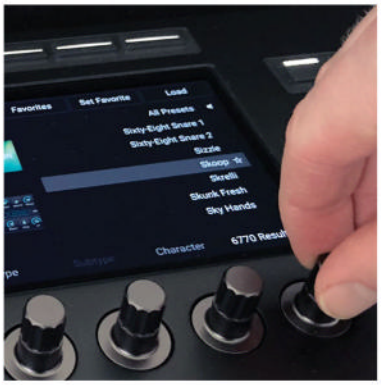
3 Let's go deeper into patch exploration. We can search by categories and types. We could be after a Reese bass patch, a sampled piano or a complex riser. Again, the synth that will load may surprise you – you're browsing only at patch level.



4 Instead of searching for 'What is it?', you can search by 'What is it like?' using the Character filter, where you have options like Metallic, Distorted, Sequenced, Evolving, and so on. You can hold Shift to select multiple Character tags.



5 Thanks to the tags and Search bar, you can basically search for any combo of tags you want, crossing types, characters and instruments. Need to find a 'Metallic' 'Synth' sound in Massive X? Turns out you have a couple of options.

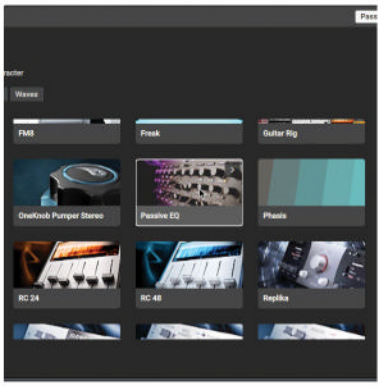


6 The kicker here is that pretty much all of this can be done right from the keyboard. Browsing patches and selecting tags, as well as loading an instrument and operating it, are simple to do right from the knobs and buttons of your keyboard.

Controlling macros and effects in Kontrol S61

1 Here in the Komplete Kontrol plugin, we run Audio Modeling's SWAM Clarinet, which is an NKS-equipped virtual instrument. The instrument gives us access to the macros of the currently selected patch. They're accessible here in the KK shell…

2 …but they're also accessible here on the Kontrol S61 keyboard when it's connected. Here we can change the Vibrato, Expression, Vibrato Rate, Growl and Flutter parameters from the main screen using the knobs.



3 One thing about Komplete Kontrol is that you can load effects onto the top of instruments, as long as the effect plugin is NKS-compatible. Here we do it on the desktop, selecting NI's Passive EQ to go on top of the Clarinet.

4 Here we can control every filter's properties from the keyboard. Each filter has its own page, and we can jump between each using the keyboard's right and left arrows. This means everything can be controlled from the play surface – even mixing.

SETTING UP FOR SUCCESS

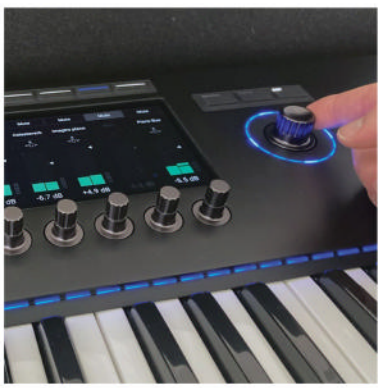
Getting your Kontrol Keyboard to work is a process that you should prepare for and then settle in for. Even if you're a veteran Komplete Kontrol Keyboard Mk2 user, you're probably going to need a comfortable chair, a stiff drink, and an executive stress relief toy of some sort.

You'll need Native Access, and to add the Kontrol Mk3 serial number in here. From Native Access (once it's updated) you'll need to download or update Komplete Kontrol (version 3) and NI's Hardware Connection Service. Next, you'll most likely have to update your keyboard's firmware. You may also want to grab Kontakt Player 7 if you don't have it already (see over the page). Next comes running Komplete Kontrol as a standalone program to scan all of your system's plugins, even if this was complete as of version 2 of Komplete Kontrol. With all that done, you'll need to ensure your DAW can recognise and speak to the keyboard.

Controlling your DAW from a Kontrol keyboard

1 The Kontrol S61's transport buttons on the left provide essential DAW control: Play, Stop, Record, Metronome, and so on. But on the right-hand side, we can switch the main display from plugin focus to DAW mode. Here's what happens.

2 Now our project's mixer is represented in the main screen, and we can control it from here. By default, each gain fader is controlled by the knob below that channel, and we can Mute each channel using the button at the top.



3 The four-way control stick lets you scroll through the active channel, which reflects on your DAW, meaning you can come here to select a new channel housing a different Komplete Kontrol plugin and delve into that plugin's settings and setup.

Kontakt and Kontrol S – browsing from an actual plugin

One easy criticism of NI's Kontrol and NKS ecosystem is that it's not very convenient to walk into. Once you're up and running, you get a lot of benefits for browsing patches and working on common production tasks, but the barrier is the necessity for the Komplete Kontrol plugin. Users of Mk2 had to load any required instrument or effect in the Komplete Kontrol shell, and while it's a nice enough shell, it's a workflow breaker.

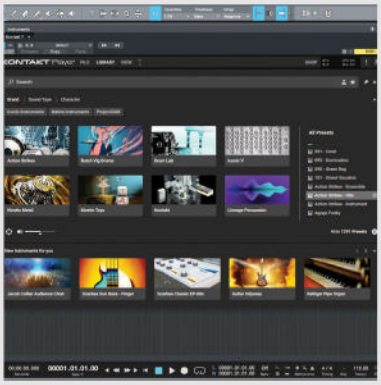
MK3 HARDWARE ISN'T JUST A 'DUMB' CONTROLLER, IT'S GOT SOME COMPUTING POWER ONBOARD

There are many NKS-compatible plugins that should in theory communicate with the keyboard, and the natural request for any Mk2 user would be to Kontrol them as soon as they're loaded up in the DAW. The problem is that it wasn't how the Mk2 system was created – the previous hardware was only able to communicate with the Komplete Kontrol shell, so this sort of convenience would have been an impossibility.

With Mk3, though, we see glimmers of hope. Mk3 hardware isn't just a 'dumb' controller, it's got some computing power onboard, making direct communication with NKS plugins a possibility, although still not a straight-up 'feature'. Our first glimpse is with Kontakt 7, which can directly talk with the controller, no go-between and no shell. Hopefully this will act as a proof-of-concept for other NI instruments and third-party plugins eventually opening up to control.

Here's an example of how it works in Kontakt.

Commanding Kontakt 7 from the S61 keyboard



1 Here's Kontakt 7, loaded with our installed collection of instruments and a helpful look at pay-for items at the bottom of the screen. Our connected Kontrol Mk3 keyboard has sprung into life meanwhile, showing the available instruments too.

2 Here we can browse all patches, or narrow it by Type, Sub Type and Character. No point wading through analogue drum machine patches when looking for a soaring string section. We can press the chunky joystick button to make our final selection.

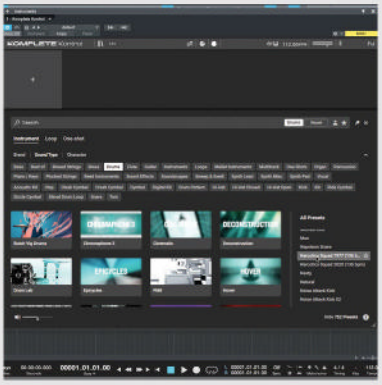
3 This Lineage Percussion patch is a kit of snares, bass drums and cymbals. We can do our usual work here in the Kontakt interface, but we can also control all of the vital parameters directly from the keyboard.

4 Even the light guides match the Kontakt instrument's keyboard colours, once only possible when loaded in Komplete Kontrol. Different instrument types in a kit, as well as keyswitches, are simple to spot without breaking focus.

5 Changing parameters in Kontakt via the Kontrol keyboard keeps things moving, especially when macros are well chosen. Having those DAW controls is useful, although currently you can't return back into plugin control over Kontakt.

6 Of course, you can build up multiple Kontakt Instruments in a project and tweak each while messing with their notes, though currently just Kontakt 7 offers the integration experience, so old projects may take a bit of manhandling to bring over.

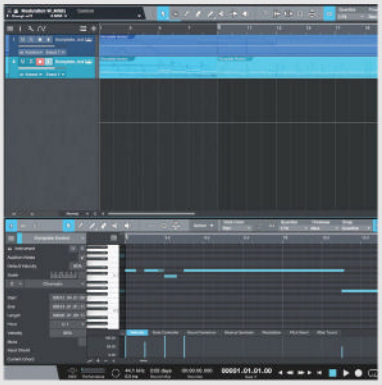
Kontext – using Kontrol S61 features to start a track



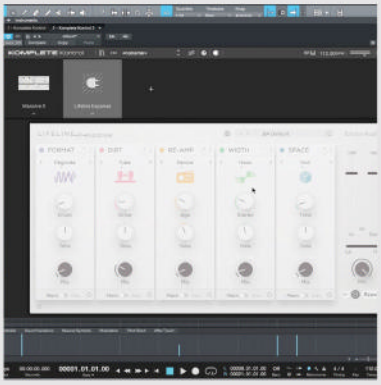
1 Let's go on a track-starting journey using the Kontrol keyboard. Here in Studio One, our first port of call is the Komplete Kontrol plugin, where we'll choose a patch under the Drums tag, eventually resting on a beat from Butch Vig Drums.

2 Thanks to our DAW transport controls, we can tell Studio One to record and use the keyboard to program a few bars of drumbeat to really get things moving. Things are pre-mixed to a good extent, so we'll move on without making changes.

3 Onto the bassline, where in another instance of Komplete Kontrol we'll select the Type tag for Bass, then choose the Stab tag from the Character selection. We come up with a Massive X preset, which we can confirm and load with a tap on the big-button joystick.

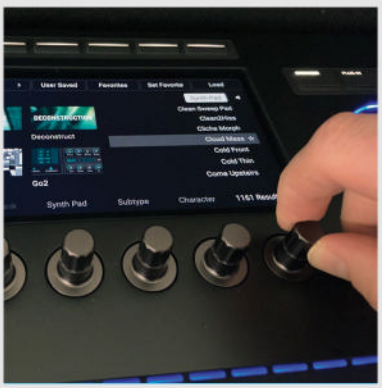


4 We record eight bars and then try another idea, but then stop short. In the DAW, we delete everything but those first eight bars, and return to start something new from bar 9. Again on the keyboard, we figure out something new. We could keep these bass variations till later, or use both right now.



5 We can add effects to the bassline, but for that we'll have to turn to the Komplete Kontrol plugin on the desktop. Once the effect is added, though, we can control its parameters from the keyboard's big screen.

6 Over to Kontakt, and we'll choose a library that works as a bit of a wildcard: Kinetic Metal gives us something metallic and clangy, but we can keep it restrained by adding a bit of an offbeat and interesting character.



7 For our fourth channel we'll return to Komplete Kontrol, and select the Pad category tag using the knobs on the main screen. It's simple to scroll through the relevant patches using the controller, listening to their character as we go through.

8 For our lead, we can choose a quicker sound that we'll send through the arpeggiator device in Komplete Kontrol. We'll cover these performance features over the page, but for now we use them to get a more sophisticated musical part into the project.

PRO TIP

Using the Character selector is a great way to come up with new ideas that you wouldn't have otherwise found. We've already talked about how browsing can be done on the patch level, by choosing a patch over a synth. With Character selection, you can go for qualities like "sequenced" or "metallic", which for some will prove a closer proxy for "finding the sound that's in my head" than pulling up a synth and twiddling knobs would offer.

THREE OF THE BEST

Nektar Panorama P6, £389

1 DAW integration, plugin integration and more, all at a very reasonable price point. You won't get the level of free software you get with NI's hardware, but Nektar's track record gives assurance that this keyboard is a serious alternative in the stakes of 'smart' controllers.

nektartech.com

Akai MPK 261, £435

2 Strong integration but doesn't go as far as NI's. Akai's keyboards, however, have extra functionality such as onboard drum pads, faders and MPC-inspired functions too. Depending on what you need from a controller, this could be for you.

akaipro.com

Novation 49SL MkIII, £519

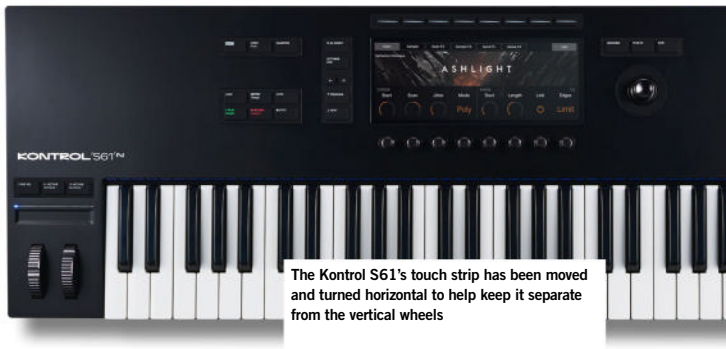
3 One specialist feature of this keyboard is its ability to connect to other external hardware via MIDI and even CV, allowing you to eventually communicate with each from your DAW. It's Novation, so there's notably extra functionality here for Ableton Live users in particular.

novationmusic.com

More Kompleter

We've covered the main areas of functionality you get from the Kontrol keyboard range in this article, but there are some other features lurking elsewhere that can spice up your production game a little more.

The Kontrol S61 now offers polyphonic aftertouch, and a touchstrip is available by the pitch and mod wheels to assign to various controls (or pre-assigned in certain setups). Here you can also switch to fixed-velocity (always 127) operation, and page through octaves. Quantisation is also on-hand to keep things on the grid, and you can play with Settings directly from the keyboard too.

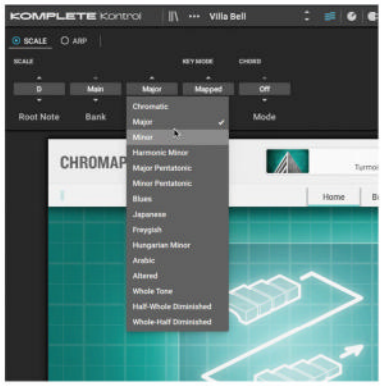


The Kontrol S61's touch strip has been moved and turned horizontal to help keep it separate from the vertical wheels

Some aspects we'd be hoping for in the future include easier integration with effects plugins, and preferably more synths to load and control directly without needing the Komplete Kontrol software. FM

Working with scales and arpeggios

1 In KK, scale and arpeggiation features have a dual function: to aid with music theory, or provide inspiration. On the keys, you can access these using the Play Assist function, or in the plugin, hit 'MIDI chords' to expand the interface to that state.



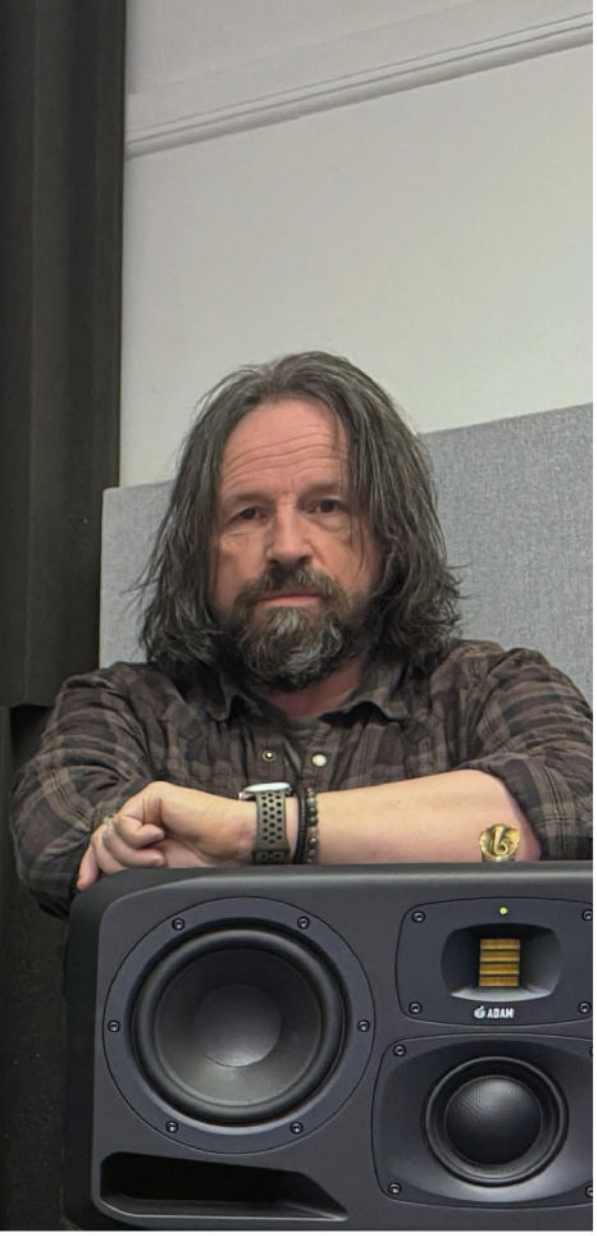
2 With Scale Mode switched on, you can choose a scale to conform your input notes to: choose the Root note and the Type of scale to get started. (The list of Types available can be changed based on the selected Bank.)

3 You also get Mode selectors for scale correction: it can be corrected automatically, shown only on the light guide, and so on. Instead of just outputting a scale, you can output entire chords by selecting Harmonizer mode or a Chord Set.

4 In the Arp section, our chords are now turned into arpeggios, with full control over how the notes are formed. There are familiar arpeggiator controls here, and more advanced features like inversions, dynamics and octaves. A song starter in itself.

NAUM GABO

20 years after first starting, Jonnie Wilkes and James Savage *finally* release their debut Naum Gabo LP, *F. Lux*. **Danny Turner** learns more



After Jonnie Wilkes arrived at James Savage's mastering studio with his debut release in considerable need of attention, the duo formed a friendship and decided to work together, leading to the creation of electronic project Naum Gabo. That was over 20 years ago and the duo have been working together on an almost weekly basis ever since.

Following a host of disparate, idiosyncratic releases on notable labels including Kompakt and Wilkes' own Optimo Music, the double act decided to ramp up the output, resulting in enough material to finally release a debut album. Sitting somewhere between dark ambient and industrial dance, *F. Lux* sparkles with murky, cinematic atmospheres and dystopian themes.

You've been working together for some time now. Tell us how that lengthy association began?

Jonnie Wilkes: "Our first record on Kompakt came out in 2004, so it's been 20 years, but I actually met James a couple of years before that. I was making music and brought some tracks along to his studio in the city centre after hearing about him as a mix engineer. These were the first tracks made in a bedroom studio and I knew they weren't mixed right and could hear that they didn't stand up once they went through his desk and monitors. I thought there was too much bass on them, but there was no bass on them and massive errors in referencing. James was very polite about it, but I realised it was going to be a big learning curve for me and at the end we got chatting and thought we should actually try and throw some ideas together."

On and off, you've been releasing music ever since…

JW: "Our friendship has grown out of that. We've been meeting up religiously at least once a week and have a synergy and language that we use in the studio that's probably not very typical. Our music started to come out in dribs and drabs on various labels, but it was only recently that we talked about making an album and I think that was about us getting older. We thought, let's work quicker and get groups of tracks together. When you do that, there's a cohesiveness to them that begins to feel a bit more like an album."

James, not all mastering engineers engage in making music themselves. Have you always combined those two activities?

James Savage: "I'd played piano and keys in conventional bands but was always pulled towards my fascination for the Atari computer and Cubase. I'm not the greatest musician in the world, but I do love technology. The mastering side came about at a time when it was a bit of a grey area, but I enjoyed the process of trying to make someone else's track sound a bit better and began educating myself on all the technologies. Jonnie and I have very disparate tastes. We never thought we'd make a rock track, for example; it was just about seeing what happens. What I have learned is that the volume of equipment you have can eat into your time, so we've got into the ethic of using one or two instruments and become quite prolific. What I like about working with Jonnie is that I've played in bands before and egos come into it, but we make music for the love of it and get on great. The language Jonnie spoke about isn't a telepathic thing, but we do look at each other and seem to know whether something is intrinsically right or not."

JW: "We're quite critical of our own music and don't let things go too easily, so we're always repurposing and reworking stuff, although sometimes your first thought is your best – you can work and work at something until you suck the life out of it."

Have you always shared the same approach to the various technologies you use?

JW: "It probably still goes on, but in the late '90s and early '00s equipment was so fetishised. I've been in fancy studios that are very well maintained and have all these iconic machines, which are like museum pieces now, but they're brittle, constantly breaking and the sound that comes from them is well-trodden ground. I never felt James was attached to that in an unhealthy way. I remember him telling me that he was working with Slam and something happened to their 909. He already had all those Roland machines and said they could take one, but when they asked how much he wanted for it he said £909 [laughs]. I think a lot of people are especially hung up about that stuff, but we're quite quick to use a piece of equipment, offload it and move on. Sometimes James says 'let's go for a really digital sound', so we'll pull up an FM synth because that can be a really important way to feed the idea."

JS: "I sampled the 909 to death, but once it was sampled I was happy to sell it because you can then access the sounds easier, programme them quicker and manipulate them more. For us, the sound has to be interesting, but most importantly it has to fit. When Jonnie and I are in the studio, we'll switch between softsynths and hardware synths. There's this purity to analogue, but even with some of the newer emulations, by just playing with the EQ a little you can still bring them up to the spec of the original machines."

JW: "It's unfortunate that a lot of producers are desperate to make dance music but don't think they can do it unless they get a 707, 808 or 909 as used on those classic Chicago or Detroit records. When they get the machine they see how the sequencing aspect is actually quite limited or they're not so great at programming it and it ends up gathering dust in the studio. They might want to try and copy a Drexciya record, but they never do and that's limiting from a creative point of view and a bad place to be in."

Although Naum Gabo's early releases were uptempo, the sound has always been dark and abstract. Would it be accurate to suggest that's a product of your Glaswegian environment?

JS: "I'm looking out of my window now and it's very grey and that does affect you. Our studio is in a very industrial part of Glasgow by the river Clyde and there are still factories and ships being built, so you're right that it does influence things. Writing a happy, upbeat pop song wouldn't feel like the right place to be in."

JW: "Right outside our window there's a grab arm at the scrap yard moving scrap metal all day, with a railway track behind us and a steel fabrication place over the way, so it's pretty grim. James and I have often wondered what it would be like if we went to one of those residential studios in the fucking Cotswolds where you look out the window and see green fields, blue skies and a big panoramic view. To be serious, the geographical context is one thing, but it's more about what's inside of you as a person. It's inevitable that you will communicate that when making music because, as artists, we all have that need within us to do so even if it's uncomfortable. The inner workings of our minds are as apparent as someone who writes folk music and I really believe that."

In terms of the latest Naum Gabo album, *F. Lux*, you came together at James' Hottrax studio. Was everything created there from scratch or did you bring ideas that you'd developed independently?

JW: "Process-wise, it's both. We can be tinkering away together or we'll doodle with a synth sequence or drums recorded on our phone and bring them in as a catalyst for something. That starts triggering a layer effect, which can be an 8-bar loop that we might record, route out and then jam with for five or six minutes to create something of interest."

"SOMETIMES A SNARE NEEDS TO BE ABSOLUTELY BRUTAL – SO LOUD THAT ANYONE WITH ENGINEERING EXPERIENCE WOULD SAY THAT'S TOO MUCH"

How would the process tend to develop from there on out?

JW: "We'll typically layer things to the point where we can throw out a rough arrangement before taking out what we don't need and that's when things start to take a back seat. We'll also start manipulating things, focusing on anything between half a dozen and 40 sounds, but we don't set out to achieve a certain amount. Sometimes two drum sounds and a synth is seductive because it's so simple, and there's a beauty to that."

If there is a difference between *F. Lux* and your previous releases it's that the beats are more stripped down and part of the sound design rather than driving it…

JW: "It's still on grid, but you're right that it's less

obvious. We didn't concern ourselves with adhering to any rules about structure, we just tried really hard to think about how the sounds were working as an immersive experience, so there are elements of the album that are reminiscent of the structure of a techno track, and we all know how that rolls, but there's an open-endedness to the rest of it that lets you enjoy the album's sonics."

JS: "The four-on-the-floor thing is there but distant in the background and not the priority. The start of the first track *Aora* was a lot more rhythmic and an example of what we said before about stripping things out to create more of a soundscape approach."

JW: "I don't know how to describe it, but there's a version of the album that we may eventually release where we built segs and transitions between tracks to create one seamless arrangement, and doing that was really interesting. As you said, once you take all the beats away you're in a corner where you've got to listen, and things are going so fast these days that maybe we should be listening to things more deeply."

What creative technologies did you use during the recording process?

JS: "We have some modular gear and one of our favourite things to use is the Roland Scooper. It's discontinued now, but a lot of the new takes on sequencers do get me excited. The way we use modular is to look for things that we can route audio through as opposed to starting with a set of oscillators."

JW: "Sometimes you want to recreate a patch the following week and it's appealing to use oscillators, filters and envelopes to make really unique sounds, but it's also a pain in the arse. I personally feel a better way is to use a dedicated synth engine, which could be the Behringer ARP 2600 or a Moog, so you're starting off with something great there and you can then route it to an amazing Intellijel sequencer or filter, back out through the Scooper and back in again. We've fully embraced the modular thing, although I did initially have a lack of experience in understanding synthesis from the ground up. Quite often I'd fuck about with the modular and end up with this step sequence of a horrible little squeaky noise that sounded rubbish, but now we're getting the fat stuff out of it. Part of the process is to come up with something and taint it – we enjoy the perversion of getting one sound to sit alongside another when it really shouldn't work, and that ends up being the thing."

How much of that is an issue for you James when, as a mastering engineer, it's typically your role to make sure those tones sit in the right pocket?

JS: "We're always thinking ahead when it comes to mastering, but even when we're mixing I tend to do a lot of metering, so I'm always carving out sounds using EQ with one eye on the mastering side later. On some occasions, we'll pull all of the faders down and mix from scratch, but more typically we'll be mixing as we go so there are very few problems when it comes to mastering."

JW: "Sometimes a snare needs to be absolutely brutal – so loud that anyone with engineering experience would say that's too much but it needs to cut through like crazy for musical reasons. Other times it doesn't need to be that loud, you just need the sense to leave a space for it in the range to appear loud and get that effect. Thanks to James, I've learnt a lot about how to listen and he's not too held back by his knowledge of mixing and mastering; some engineers are."

JS: "I have a fascination for space and love listening to music for hours with headphones on and being able to pinpoint everything. My son listens to full-on black metal in the car, and you can't hear any space in that at all. When students ask me about certain albums, I let them hear a Fleetwood Mac LP called *Tusk*. Instrumentally, there's not a lot going on, but it's amazing how it pinpoints instruments in a space."

JW: "I love what you can do with FabFilter EQs – that's one plugin that's been really educating and given me a much better understanding of sound placement because it's so visual. We got on fine for years with outboard EQs, but some of the software now is amazing."

While the process of music-making is no doubt therapeutic, does it resolve anything or do you simply take your neurosis into the next project?

JS: "I don't know if this is clichéd, but as Jonnie said we religiously meet up almost every week and, because we've got families and work, other people get a lot more time. But if this was taken away I'd be a different person and my family would probably hate to be around me. I love mastering and can do all of that stuff elsewhere, but being able to produce and create is definitely a release for me."

JW: "At the risk of sounding pretentious, if you're the artistic type then you have a need for fulfilment. If it goes well in the studio, the feeling is so unique and real that I can come home a different person and there are not many things in life that are so comfortable to hold onto. If it goes badly because we've had a limited amount of time together, then it's horrible to think you might have wasted a whole day. I'm in a terrible mood when that happens." **FM**

WANT TO KNOW MORE?

The new Naum Gabo album *F. Lux* is out now on DFA. For more, visit **naumgabo.bandcamp.com**

Make great music on your PC or Mac!

Computer Music is the magazine for musicians with a PC or Mac. It's packed with tutorials, videos, samples and exclusive free software.

AVAILABLE NOW FROM www.magazinesdirect.com

Available digitally on these devices

Available on the App Store · GET THE MAGAZINE ON Google play · Available at amazon · nook · zinio™

Eurorack percussion

Master your modular percussion patches

While you can stay in the box – using Logic, Pro Tools, or Ableton, etc – or you can opt for a standalone drum machine, there is nothing quite like using modular synthesisers to create your percussion tracks. Modular, especially Eurorack format, opens up a world of sound design that is hard to find anywhere else. This is true of building a voice for each drum and just as true for the sequencing and pattern building, so dig in over the next few pages to learn some of the fundamentals of Eurorack drumming, from pattern building to synthesising custom drum voices and adding humanising touches to get things groovy.

Percussion in the modular world

For so many genres of music it is the drums that lay down the fundamental feel of a track, underpinning everything else and giving other instruments a foundation to play with or against, depending on the desired outcome. A drummer will do this for a band, but if you are a modular synthesist, how do you go about taking on the job of a drummer, even if your percussion voices aren't totally (or even close to) the sounds of a drum kit?

Well, the answer is sequencing, where you program your drums. There are a multitude of ways of doing this, along with just as many modules to aid you in the task. Here we will look at a few basics to get you off the ground, as well as taking a look at a few modules that are great for this type of work. We'll talk through creating a kick drum sound using modules you probably have in your rig, but there are of course dedicated modules for replicating specific sounds like an 808 or 909, along with claps, cymbals and so on. Those are great, and we have many in our rig, but really, the focus here is on pattern and beat creation. With that in mind let's look at various methods and tools that can get you off on the front foot.

One thing worth mentioning is that you don't have to be a drummer at all, although you could use an electronic kit to trigger your rig, with a MIDI to CV converter. Some drum sequencing can be completely generative, where you input some parameters and let the modular do its thing, other methods are more akin to a drum machine, where you choose an instrument and dictate which beats it plays on, rinse and repeat for each drum.

However, there are other methods like using modulation sources to generate triggers, which we will look at later.

A series of books could be written on this topic, but hopefully you'll pick up a few basics that will allow you to start your journey and aid you in either setting up a more generative patch, or give some tips on building an xOx-style system, or a modular groovebox. There is no wrong or right in this. What works for you is all that matters, but you should enjoy the process (or what's the point?) so use these pages as a launch pad or bootcamp to help you start your sequencing journey.

Before you get started, familiarise yourself with a couple of your favourite tracks and see if you can jot down the pattern, or at least grasp what is going on in your head – which beats do different drums fall on, are any of them non-repetitive, or a few ticks ahead or behind the groove? Then, read on…

Build a kick drum voice

No dedicated drum modules? No worries. All you need is a filter, envelope generator and a VCA

To create a solid-sounding and pretty versatile kick drum, start with a self-resonating filter and crank the res until you get a pitch. At this point the cutoff dictates the pitch, rather than the filtered frequencies. Send the output to a VCA and use an envelope to shape the kick, with a very fast attack, short release, no sustain and a little decay. Adjust to taste.

If you have a second envelope generator, you can use a fast attack and fairly fast release, and plug that into the filter cutoff CV (probably attenuated) to add that descending pitch you often get with a kick. Modulating the envelope can produce some nice variation, akin to velocity changes.

1 For this example, we're using Mutable Instrument's Ripple filter. Dialling the maximum resonance you can use the cutoff knob to set the desired pitch for your kick drum and send the output (in this case the LP2) to a VCA.

2 Create a fast attack, release and decay envelope and patch that into the VCA and adjust to suit how fast you want your kick to tail off. An almost immediate attack generally works best for this. A shorter release and decay can add some punch but can become clicky.

3 You can take a copy of this envelope with a mult, or use a second generator if you have one. Patch that into the cutoff CV of your filter to get the pitch dropoff. This works well if you're aiming for something akin to an acoustic drum.

FOUR QUICK TIPS

1 **Reference your favourite tracks to train your rhythmic brain. Listening to beats you love and trying to analyse the groove will go a long way to helping you devise your own beats that move you.**

2 Ticks, the subdivision of a quarter note, can be used to add personality to a beat. Try shifting some (but not all) drums ahead or behind the beat to add interest and remove sterility from your track.

3 **You can use a sequential switch to kill certain instances of a hit over the course of a sequence, gaining some controllable unpredictability to things. This is just one method of humanising your beats.**

4 Avoid triggering things that wouldn't be done on an acoustic kit, like an open hat and a closed hat at the same time. It sounds unnatural, but also can make your mix worse as overlapping frequencies can be hard to tame later.

Using Pam's New Workout as the powerhouse behind your beats

Use this killer modulation source as a drum sequencer, replete with timing tricks to humanise and add interest to your tracks

01 >

Powering on, the first thing is to set an overall tempo. Pam is a solid clock generator but it can be clocked externally. For our purposes we will stick with the onboard clock, set to whatever suits your needs. We'll stick with a middling 120 for now.

02 >

Rotate the knob to select channel 1, where you can see the current clock division. Leave this at 1x for now. This will be the kick drum pattern, which we will keep as a straight four-to-the-floor. Make sure you patch the output 1 to the trigger in of your chosen kick voice.

03 >

For a snare, let's patch output 2 to the trigger in of a snare voice, select channel 2 on Pam and choose a division of /2, so we get a snare hit every other quarter note, which will currently fall at the same time as the kick.

04 >

Do the same for output 3, this time triggering a closed hi-hat. Hold the blue button and navigate to Rskip and set this to 30%. This will skip triggers 30% of the time, randomly, which adds a lot of interest to the finished rhythmic pattern.

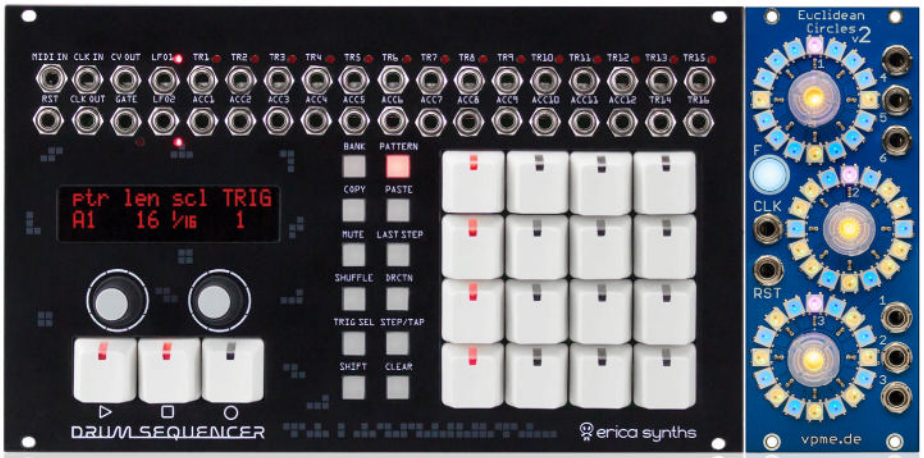
05 >

Copy step 4, but this time patch to an open hi-hat, with the clock division set to /2, or whatever works for you best. This could be patched to the hi-hat's accent input too, which can add more subtle variance.

06

For any channel on Pam, you can press and hold the blue button, then turn to the slop control. Use this for more humanisation, as increasing the value will force triggers to vary from the clock by the set amount. A little goes a long way here.

Euclidean vs x0x sequencing?



x0x is (usually) the 16-step sequencing method commonly found on machines like Roland's TR-808 and TR-909 – hence the x0x term used. This is more rigid and, although certain sequencers allow for things like swing and accenting, the workflow is very much grid-based. If you are attempting to create something repeating and consistent then this is for you. You can still mix things up a little with accents and the like, and it's been a firm favourite for a long time now.

Euclidean is somewhat freer but less predictable. Programming a specific repeating pattern is difficult due its very nature, but letting it play out can produce some happy accidents you wouldn't find elsewhere. For generative music you can't beat euclidean patterns. They just sit right with the ever-evolving nature of the genre.

How to... Trigger anything!

Although for the most part we trigger drum voices, there's nothing to say a sequencer can't be used for other purposes, such as launching a sample or triggering an envelope generator. Having a sample play in time with a beat can be very handy. This could be a particular noise, or something a drum voice or VCO can't produce, or a field recording you want to incorporate. We often use this method for strumming Mutable Instruments rings, using a stacked cable to save using up sequencer channels, although this does mean the strum will happen every time that drum voice is played.

How to... Voice triggering

A coin toss module can be a fantastic addition to a sequencer. Plug the trigger into it, then two outputs to different voices (or whatever destination you want), set the probability control then let it decide which voice gets triggered each time. For example, one side could be a closed hat, while the other is an open one. If you prefer more closed hats to be played, then move the probability control more to that side. It's a little unpredictable, but in a controlled manner and can yield some wonderful moments, where your 'drummer' gets just a little bit extra creative.

How to... Make it organic

Low-pass gates have been much-loved for some time in the Buchla world, but have become more common with East Coast synthesis in recent years. While a similar effect can be achieved using envelope generators, a low-pass gate has a characteristic that makes it ideal for drum sounds. It's a fast attack with a gently rolling-off decay. LPGs are a kind of mix between an envelope and a VCA, based on the interaction of light in a vactrol behind the scenes. It's this that makes them sound organic. Used in a sequence, and triggered like any other channel after even a simple low-pitched VCO, can sound wonderful.

How to... Layer your kicks

Sometimes, even with the very best kick drum sounds, you can be left feeling a little underwhelmed. This may be due to the mix or compression, but could also just be that you need a touch extra. One trick you can use is to layer your kick. If you have enough room and modules, try layering one kick with a fast envelope for a more clicky sound, to give the transient attack you need, with another, set a little slower on the release. This lets you work on the pitch and fullness, where the two combined can shine. Ultimate control comes with this trick and you can sequence them differently to add some variation.

5 top modules for a Eurorack drum rig

Top choice modules to build a percussion skiff (ignoring all-in-one drum machine modules like LXR)

Acid Rain Constellation

Acid Rain Constellation is an eight-channel pattern generator that allows you to build rhythms that are clocked and defined, but can be combined, creating a morphing sequence that is highly musical. It's on the larger size at 28hp but well worth it as a rhythmic modular brain.

Modbap Trinity

A fantastic, three-channel drum voice, Modbap's Trinity is a 20hp module that has a huge variety of tones from the deepest of kicks to the sparkliest cymbals, plus much more. The CV control options allow lots of variation and modulation, and it has USB MIDI for connecting to outboard gear.

Knobula Kickain

Sidechaining, based on a kick drum is a popular component of beat making. Knobula's Kickain is a versatile kick voice in its own right but has on board sidechaining compressor and even a reverb, for the hugest sounding hits.

ALM Pamela's Pro Workout

ALM Busy Circuit's Pamela's Pro Workout (or previous incarnations) is a real Swiss Army knife module. It can sequence in different ways, accent, modulate and essentially act as the brain of your entire rig. Eight channels as standard but the expander increases this and adds MIDI ports, too.

Tip Top Audio Circadian Rhyhm

For something more xOx-based but with a lot of functionality, Tip Top Audio's Circadian Rhythm is a wonderful sequencer. Sequences can be chained and different parts can be muted or ratcheted on the fly, making this a great performance sequencer as well as one that's perfect in the studio for songwriting sessions.

KELLY MORAN

Matt Mullen speaks to the New York-based composer about her latest project, which places the Yamaha Disklavier front and centre

© Brandon Bowen

Composer, producer, synthesist, Warp Records signee and touring member of Oneohtrix Point Never's live band, Kelly Moran is many things, but first and foremost, she is a pianist. Imaginatively exploring the sonic potential of her chosen instrument through technological transformation, Moran's previous work has made use of prepared piano, extended techniques and electronics to take her prodigious instrumental talent to new worlds.

Moran's latest project, *Moves in the Field*, shifts the focus of her experimentation from the timbre of the piano to how it's played. Working with the Yamaha Disklavier, a MIDI-equipped grand piano capable of playing itself, Moran improvised, recorded and programmed a series of duets for herself and the instrument, joining forces with the Disklavier to achieve pianistic feats inaccessible to a human player.

Merging her own performances with the instrument's self-playing abilities, Moran played and programmed intricately intersecting melodic patterns, surgically editing their MIDI data in Logic before routing them back to the piano to be recorded, processed and carefully mixed. "My imagination exploded at all the possibilities this instrument allowed me to create," she tells us.

Moves in the Field isn't merely an exercise in technicality, though; suffused with melancholy and grandeur, these pieces possess an emotional depth that stretches fathoms. Moran's serpentine melodies and complex arrangements confound and realign our expectations of piano music, and the project as a whole – like the rest of her output – boldly reimagines what a pianist can be in the 21st century.

We sat down with Kelly Moran to find out more about the making of *Moves in the Field*.

You began playing piano at quite a young age, but we're interested to find out when electronics and production became a part of your creative process?

"Around the time I was 15 I started to experiment with electronic music software. I started listening to this band called Telefon Tel Aviv, and I heard this song called *Fahrenheit Fair Enough*. It's an electronic piece of music but it had some acoustic elements in it. I really just wanted to make something that could balance both of those things.

"This was 2005, so this was a long time ago, and it was novel for me to hear a techno song that had an acoustic guitar in it – something that felt like it was blurring the genres. I wanted to try to emulate that. So I started messing around with Logic when I was 15 and basically trying to make pieces that sounded like them."

Was it always your plan to combine that interest in production and technology with your piano playing, or did that come later on?

"I've always been interested in merging technology and piano in some way. When I first got to college and I started to really get better at using software, one of the first things I did was build a digital instrument that I could use in Kontakt where I sampled myself plucking every note of the piano and mapped it to a controller, so I could play it.

"It's an extended technique that if I tried to do in person, I would have to lean into the piano and pluck these notes individually. But I realised that if I mapped them to a keyboard, I could play it as though I was playing a piano.

So very early on, I started getting excited about the way I could manipulate the timbre of the piano or use the sounds in different ways that went beyond how I could use them in real time."

Talk us through your experience with the Disklavier. When did you first begin using one?

"The first time I ever used a Disklavier was in grad school, because my university had one. I worked with it a little then, but I didn't have access to it again until like, almost a decade later when I became a Yamaha Artist. They loaned me a Disklavier initially because I was writing a duet for myself and another pianist, and I wanted to be able to hear in real time how the piece was sounding with two pianos.

"SOMETHING THAT I REALISED ABOUT MYSELF IS THAT WHEN I'M PLAYING SOLO PIANO, IT'S SO EASY TO LET MYSELF GET CARRIED AWAY"

"Having a piano that played itself was just like having another duet partner there. That was how I started working with it, but when the pandemic hit, it became a very obvious collaborator, because I didn't have anyone else to work with."

When did you begin to think about building a whole project around the instrument?

"Shortly after the pandemic hit, I had become bored with writing for prepared piano. I was going to make another album of prepared piano music, but once I was trapped at home, I felt like the world I was creating that record for didn't exist anymore. I had to find fresh motivation that wasn't rooted in the desire to make another album that I could tour, to keep the momentum going.

"I had to stop and figure out what would make me feel inspired. Initially, the purpose of having the Disklavier was to write a duet with someone else. But then I had the instrument in my house, and when I was feeling uninspired by the prepared piano, I thought: let's see how the songs I've been working on sound if I arrange them for the Disklavier.

"I had been writing these very multi-layered prepared piano tracks that were all very loop-based and groove-oriented. So I dissected them and rearranged them for Disklavier, and once I started working on this music on the instrument, it provided a completely new perspective and a way of working that inspired me a lot. Then I just went full on into that world."

How has the ability to record, layer and manipulate multiple parts shaped your approach to composition?

"The most impactful part has been getting to hear myself as a pianist from the perspective of the listener. Being able to record into the piano, step back and go to the other side of the room, and hear the piano replay what I had just played. Then I can judge my playing as a listener and not just as a performer. I'm able to go back and shape those performances by bringing out certain notes. Say the take that I just did, maybe every note in the chord sounded perfect, except for the top note was a little quiet, so I can go back and make that chord sound perfect. It made me a much more sensitive listener because I was able to hear myself from another perspective."

That's interesting. It's so true that you don't hear your work the same way when you're performing it as opposed to listening objectively.

"Something that I realised about myself is that when I'm playing solo piano, it's so easy to let myself get carried away. When there's no accompaniment, and it's just you on the piano, it's so easy to let yourself play really loudly or play super-passionately, and be more controlled by your feelings than the sounds you're making. It can be more of a cathartic experience than one where you're listening and thinking about how it sounds for the listener.

"Sometimes I would sit at the Disklavier and I would play something and it would feel really good to play, it would feel very cathartic and full of emotion. But I would listen to it and I'd be banging the crap out of the piano; it felt good for me to play, but it might not sound good as a listener.

"It made me want to explore, how do I find a middle ground between being too self-indulgent and just letting

© Sophie Leetmaa

myself rip at the piano and do what feels good, but also playing in a way that sounds good for the listener? 'What's the effect that I'm creating?' That was something that was really interesting to explore. I'd never thought about trying to rein in my performance for the sake of the listener before."

Is all the material on the record actually played into the Disklavier, or were you programming any MIDI to send out to the instrument?

"A lot of the record is me playing the Disklavier and the instrument playing it back. A lot of the time, I'd use my synth to generate an arpeggiated pattern and send that to the Disklavier. Once I realised I could do that it opened up the means for me to explore all these inhuman possibilities. Because I would record my own playing into the piano, but it was really fun to kind of take my synth and set the arpeggiator to a random pattern and see what crazy patterns the Disklavier would play.

"It would spit out something that would be very unpianistic, or something that I would never play. Sometimes I would record an arpeggiated pattern into it then I would go in and record a melody over it or rearrange the notes to bring out a melody. It opened up a new way of writing and coming up with material."

Did you use any MIDI generation tools?

"I wouldn't really generate anything cold turkey. When I say I would use my synth for that, I would be playing a chord on the synth and choosing which notes would be arpeggiated or what kind of content was being generated. It was never random, or something that I wouldn't be coming up with myself.

"So I would play my synth and come up with these patterns and then I would use the MIDI editing tools in Logic to edit or alter the MIDI that I had recorded. Sometimes I would use Logic to speed it up or to change the key. But that was the extent of what I would do. It was really just me, the piano, and Logic, and then sometimes my Prophet-12. It was a pretty simple setup."

You've said that the project explores the different ways you could use the instrument to "merge its inhuman capabilities" with your own playing. Could you talk us through some more ways that the Disklavier has augmented your capabilities?

"One of the first things I would do is record a chord progression on the keyboard, then I would double the bass notes, so that I would have an extra octave going. The piano would be playing chords that would be so stretched out that

my hands could never play it all at once. Even though that's technically inhuman, it doesn't sound impossible, it just sounds like there's another pair of hands on the keys. So sometimes I would use it just to have extra notes and harmonies that I wouldn't be able to reach.

"But then sometimes, it was really fun to record a pattern and crank up the tempo in Logic to 250bpm or something crazy and have the piano play it back at a pace that I would never be able to play. Or I'd have the piano play a pattern that was really, really fast, but also incredibly soft. Things like that would be very challenging physically to play, but the computer makes it possible."

What led you to focus on more of a natural piano sound on this release, as opposed to the prepared piano and electronics that you've worked with previously?

"It felt like a fun challenge to limit myself to the acoustic sound of the piano. So much of my practice as a composer has been about exploiting new and exciting ways to make sounds with the piano. So whether I'm preparing the piano, or I'm sampling it, or I'm building a digital instrument that can play the piano in a way that I can't in real life, I've done all these things that have been about squeezing different sounds out of the instrument.

"It felt like a good time for me to say, I've done all that exploration, but now I have a tool that allows me to play the instrument differently – everything about the approach is different, except I'm not altering the timbre. It's just about how I use the instrument to create the music."

We're told that you collaborated with Dan Bora, Philip Glass' sound engineer, on the mixing and recording for this project?

"I wanted to work with a classical engineer who had mixed a lot of piano records. In my previous projects, I've mixed the piano sound with electronics and with other elements. But for this one, I wanted to really keep the piano sounding as pure and as clean as I possibly could. I also recorded a lot of the piano parts separately because a lot of these tracks were very layered. I recorded the layers separately, so I could have some more control over mixing. So I wanted to have an engineer who was just really good at working with the pure sound of the piano and had a lot of experience doing that.

"Philip Glass is one of my heroes, one of my idols. I'm not the same exact kind of composer as him, but he's a big inspiration for me. So when I'm really inspired, I'm thinking, who are they working with? Philip Glass lives in New York City, and I live in New York City now, and I saw that Dan

"A very important aspect of my work is trying to preserve my own humanity, even if I'm using technology to help me do it"

"I'VE ALWAYS TRIED TO USE TECHNOLOGY AS A WAY TO EXECUTE IDEAS THAT I HAVE. I TRY NOT TO LEAN TOO HARD ON TECHNOLOGY FOR GENERATING THE IDEAS"

had also worked on my friend Vicky Chow's album, and he had worked on some music that I really liked. That was my motivation for seeking him out."

We imagine layering multiple piano parts was quite a challenge in the mixing process. Were you aiming to preserve separation between each part or create a coherent whole made up of the individual layers?

"When I was writing these pieces, I would start out with one MIDI layer in Logic. I would have one MIDI track and I would record into it. Let's say I would record a chord progression or something. So I would have one track that had the chord progression, I would make another MIDI track, and then I would record the melody on top of that.

"I would have separate MIDI tracks for all of the layers, so that I could have a lot of control. I was mixing the MIDI layers the same way that you would mix discrete tracks of any song, I was just doing it in real time. So in working on these tracks, even though all of the parts were happening on the piano simultaneously, they were all separated out in Logic, so that I could go in and edit these different layers and make sure that everything sounded balanced.

"Initially when I set out to record the project, my engineer suggested that I record them all separately, so that I would have more control over mixing the parts. So I did it that way and it became an extremely tedious mixing process, because I had multiple mic pairs of multiple piano layers. Some of the songs had 60 tracks just for a few piano layers. Dan had to do a lot of math to make sure there's no phase cancellation between all the mic pairs.

"This gave me a lot of control in spatializing a lot of the different parts. So from a mixing perspective and a spatialization perspective it was a fun exercise, and it was very interesting to be able to treat all these parts discretely, but there were some tracks that didn't quite work the same way, because it was missing that resonance and that blur of all of the tracks happening simultaneously on the same instrument. Because you get more harmonic information when everything is happening and everything is resonating together. So for some of the tracks, I went back and re-recorded them with all the layers happening on the piano simultaneously.

"When I'm working on these songs, it looks like how you work on any other project in a DAW: there's different tracks, but the only difference is that instead of an audio signal, you're listening to a piano play it in real time. It's cool being able to sit in the producer's chair and hear the piano doing all the work for you."

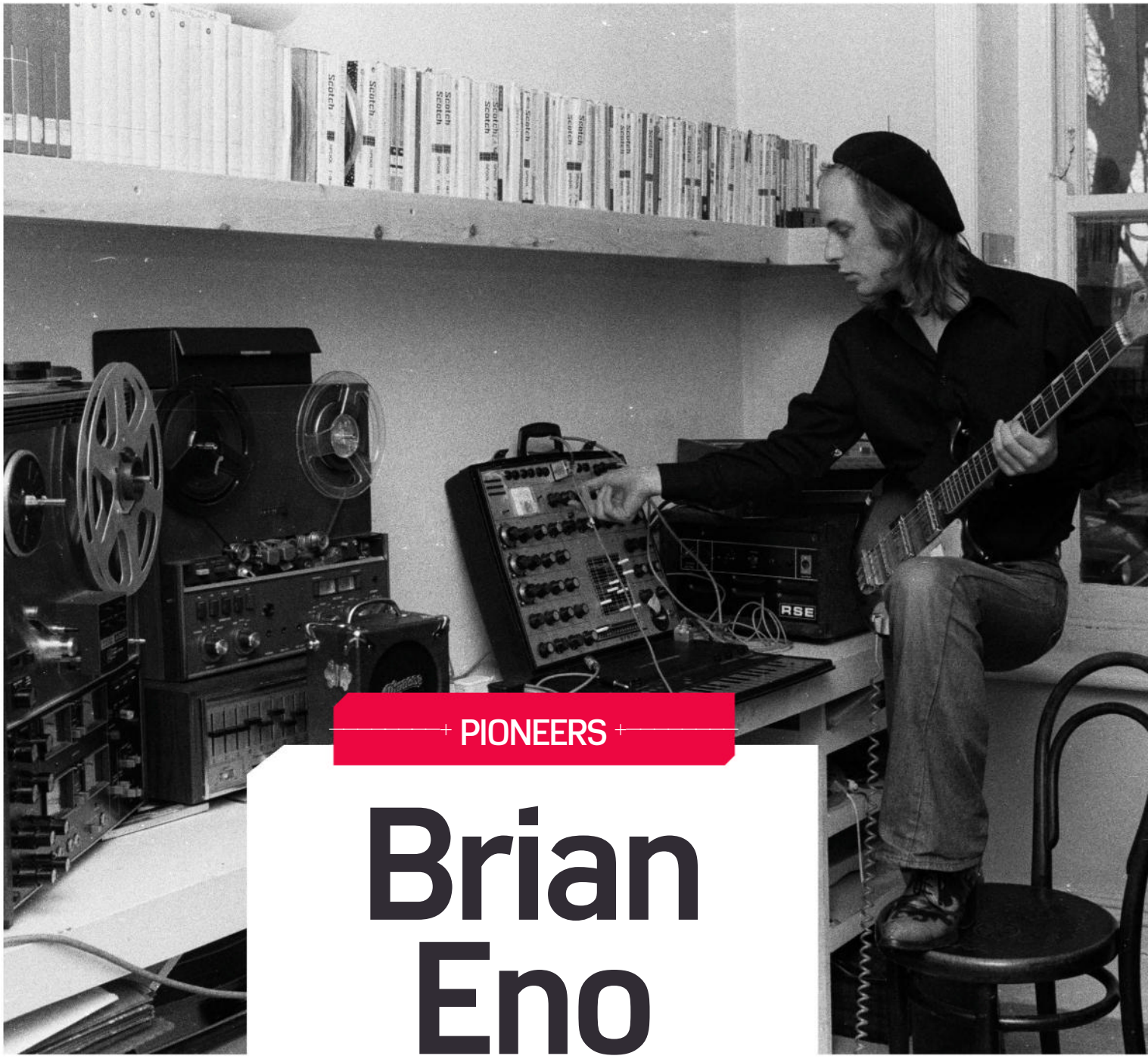
The press release references the dichotomy of humanity vs technology. That seems like a theme that's present across your discography; are you trying to break down the division between those two worlds?

"I've always tried to use technology as a way to execute ideas that I have. I try not to lean too hard on technology for generating the ideas. It's funny, when I was working on this project, I was showing people that I have discrete tracks for the melodies and chords and bass progressions, and that everything is labelled and categorised. So many people said, 'wow, you have all these MIDI files that are your melodies and your chord progressions. You can easily teach an AI to write melodies and chord progressions like you!'

"That doesn't interest me. I don't want a machine to spit something out at me. I'm much more interested as an artist in mining what's happening in my head and then trying to make sense of it through technology. That's why I like working with the Disklavier – it helps me achieve something without doing too much of it for me. I still wanted my own playing to be the basis for these pieces. A very important aspect of my work is trying to preserve my own humanity, even if I'm using technology to help me do it." FM

WANT TO KNOW MORE?

Kelly Moran's *Moves in the Field* is out now on Warp Records.



© Erica Echenberg/Redferns

PIONEERS

Brian Eno

Producer, collaborator, hard-to-use synth champion, ambient maestro, app developer and chancer Brian Eno is certainly a pioneer, but of what? Well, how about everything?

The phrase 'hard to pin down' was, very possibly, invented for Brian Eno. Never has a person involved in the production of music (and by our definition, so many worlds beyond that) had so many pigeonholes built for him and then abandoned. He's a synth whizz, having been the flamboyant VCS3 man for '70s art rockers Roxy Music's first couple of albums, then taking his electronic knowledge to Berlin to help sculpt 'the big three' albums for Bowie in the city, most famously on the single *Heroes* and track *Warszawa* from the b-side of *Low*. And more recently (although not that recently) he became something of a champion – probably one of the only champions, actually – of the Yamaha DX7, and one of the few people to wrestle with its FM synthesis and win.

Eno is also famous for bringing that word 'ambient' to music production throughout the 1970s and 1980s with albums like *Music For Airports* and *On Land*. And his list of contributors moves well beyond Bowie, with album releases with everyone from Talking Heads' David Byrne (*My Life in the Bush of Ghosts*) to *Passengers*, where Eno teamed up with U2. Yet perhaps his finest collaborations come by way of the excellent albums *The Pearl*, with Daniel Lanois, and *Ambient 2: The Plateaux of Mirror* with Harold Budd; both extraordinary records if ever you want to explain peak ambient/chillout music to anyone.

Renaissance man

Speaking of U2, this would be the band with whom Eno would reach top form wearing yet another hat, that of producer. He was in the studio chair alongside Lanois for many of the superstar band's strongest albums including *The Joshua Tree*, *The Unforgettable Fire* and *Achtung Baby*. Add that to productions with Ultravox! (the first

incarnation), James, Talking Heads, and many more and Eno could be said to have been 'quite busy' over the last five decades.

But we're not finished yet, because not only has Eno been the creative spark behind so many projects and collaborations, he's inspiring *everyone* in the art of composition, with everything from iOS apps – including the generative app Bloom, and Scape that 'makes music that thinks for itself', both developed with Peter Chilvers – to his infamous Oblique Strategy cards. These were developed by Eno close to five decades ago and, while the name might sound quite artsy, are quite simply quotes on playing cards that help you out when you get stuck in a creative rut in the studio (or in any life situation, really). You get helpful nudges like 'take a break' and 'what mistakes did you make last time?', although sadly not 'go for a pint'.

And finally, there's 'Brian Eno the elusive'. Notoriously shy of interviews and dealing with banal questions with long-winded vague replies that fill the room with seemingly highbrow words – leaving the interviewer wondering what they asked in the first place, let alone whether he actually replied – an Eno interview will leave you believing that he is simultaneously avoiding the question like he knows nothing about the subject, and looking like he just knows too much to bother answering it.

An early interview with U2's The Edge perhaps sums him up, and says a lot about U2's working relationship with Brian – and, also, in a rather tongue-in-cheek way tries to burst the Eno bubble that we have just spent the last few paragraphs blowing up.

"He's not a great keyboard player, he doesn't write great songs really, he doesn't have the craft that, say, Bowie has to write a song, or Paul McCartney…" The Edge said to *One-Two Testing* magazine in 1984. "His engineering and technical abilities are limited as well. In fact, he knows very little about an awful lot, but it's how he applies that knowledge. I suppose it's down to confidence, too."

Master, master!

What The Edge was hinting at – and indeed, what we are discussing here – is that the Eno confidence can be applied magnificently to a host of projects, that with every collaboration, every production, every atmospheric chord change and recorded found sound, Eno can be both the match and touch paper that gets a project started or accelerates it beyond the ordinary to extraordinary.

So while The Edge might have been flirting with the idea that Brian is a jack of many trades, what we really have with Eno is the *master* of many, the pioneering magpie of electronic music production and so much more. Eno, whether you know what he's doing or not, will transform your project, just as he has the musical landscape of the last 50 years. **FM**

ESSENTIAL ENO

Warszawa, *with David Bowie*

RCA, 1977

Introducing the second side of Bowie's long player *Low* – aka the greatest album b-side ever – *Warszawa* delivers stunning atmosphere but was inspired by the bleakness of the city in its title. Bowie's 'made-up word' lyrics are perfect for the darkness, which is made even more oppressive with Eno's synths: a Minimoog and the same EMS Synthi used on the track *Heroes*. Eno apparently gifted the EMS to Bowie in 1998 with a note saying, "Look after it. Patch it up in strange ways – it's surprising that it can still make noises that nothing else can make."

An Ending (Ascent), *with Daniel Lanois and Roger Eno*

EG, 1983

Very possibly not just the best Eno track ever recorded but the finest example of electronic ambience you'll ever be lucky enough to listen to. In a brilliant Eno-esque way, he recorded it for a documentary – *For All Mankind* – that didn't see the light of day for years, and it could have been lost without trace had not both the stunning Apollo visuals and soundtrack worked so well when they joined forces. Best enjoyed late at night alongside said visuals, with what your dad used to call a 'jazz cigarette'.

Slug, *as Passengers*

Island, 1995

Very possibly not just one of Brian Eno's great collaborations but the best song you didn't know by U2. In another haphazard Eno/soundtrack story, he got together with U2 to record the score to a Peter Greenway film called *The Pillow Book*. That didn't happen but they recorded some tracks anyway, as you do, and this one, inspired by the Tokyo/*Blade Runner*-esque landscape, was initially called *Seibu*. Deemed not good enough, it was binned before that man The Edge rescued it, thank goodness, and Eno added the unforgettable synths and chords. Magical.

Emerald and Lime, *with Jon Hopkins and Leo Abrahams*

Warp, 2010

One from each of '70s, '80s and '90s, and now this final choice bridges a couple of decades in the 21st century, which is not only neat, but proves Eno's longevity and impact across the years. Here he teams up with Leo Abrahams and Jon Hopkins, surely the ultimate ambient trio, bar Richard James? It could never be three times their connected power, but it's still a wonderfully evocative highlight from the album *Small Craft On A Milk Sea*.

FutureMusic Platinum Award

UDO Audio Super Gemini

£3,595

Just like the astrological sign Gemini, UK company UDO's "bi-everything" synth is double the fun, says **Andy Jones**

KEY FEATURES 20-voice (10 binaural/stereo) hybrid analogue/digital synth; 2-part multi-timbral; two DDS oscillators per layer; 61-note semi-weighted keyboard with velocity and polyphonic aftertouch; 8 x 8 modulation matrix plus 25 extra mod destinations and Performance Control Section; ribbon controller; MPE support; 4-pole 24dB/octave LPF, 1-pole 6dB/octave HPF; 2 x envelopes and LFOs per layer; stereo chorus and delay (with delay freeze)

THE PROS & CONS

+

Two fantastic-sounding synths in one that can interact with one another incredibly well

The modulation options are many and varied and relatively easy to implement

Two sets of controls for each synth mean much less fuss and everything is right there before you

–

A screen would have helped with some of the functions

A very pure electronic sound that might be too dreamy for harder styles

UDO Audio's Super Gemini synth is designed as the perfect marriage of effectively two synths – hence the name – in one almighty design. But it's more about how these synths co-exist, work together, and how they complement one another in an incredibly well-designed dual environment. The synth is bi-timbral and binaural – bi-everything, really – so you can have 20-voice mono sounds, or 10 big stereo sounds, or keyboard splits with five stereo/10 mono voices on each of the upper and lower registers, or just have your sequencer triggering two completely independent synths, each sent to individual pairs of outputs.

The easiest, and possibly laziest way to describe Gemini is as two of UDO's own Super 6 synths – which we looked at back in 2021, the company's first synth entry and a great debut – together in one case. Indeed both synths use the aforementioned binaural architecture, where two duplicate voices are used to create true stereo sounds. Super 6 has six binaural voices or 12 mono voices of polyphony. Gemini has 10 binaural voices (five per layer) or 20 mono voices. So it's not really (quite) two Super 6s – it would need a couple more binaural voices for that – but who are we to quibble? And to be honest, the overall Gemini package, with two sets of controls for each synth layer, does scream 'double synth power', and the two synth engines also share a lot more.

This extends down to the hybrid analogue/digital architecture, at the core of which lie two DDS (Direct Digital Synthesis) oscillators per synth layer. These boast a ridiculously high sample-rate to output-frequency ratio meaning that, according to UDO, they are capable of generating "frequency content far above the limits of the human auditory system".

It's the kind of best digital/analogue core that synths like Novation's Summit boast – which also uses similar Field Programmable Gate Array-based oscillators – so you get super analogue if you want it, but also a side helping of digital stability with

THE ALTERNATIVES

Groove Synthesis 3rd Wave £3,499 (module), £4,999 (keyboard)
It might be more wavetable-focused but 3rd Wave also plays the multitimbral card better and can do analogue, but the keyboard version costs a lot more
groovesynthesis.com

Novation Summit £1,899
Very similar core engine, even down to the oscillators and bi-timbral abilities. Doesn't have all the extra controls and performance features, but is much cheaper
novationmusic.com

UDO Audio Super 6 £2,249
You've got to include this as an alternative as the engines are so similar. It's over half the fun for over half the price
udo-audio.com

no aliasing. The rest of the synth boasts a mainly analogue signal path, which can be a true stereo one, including dual 12dB/octave filters (with six different low-, high- and band-pass combinations).

The first oscillator, DDS 1, includes analogue-style waves – sine, sawtooth, square, triangle, noise – plus, via a sixth option at the far right of the dial, access to 32 more 'digital sounding' waveforms (via two banks of 16). The manual actually states 64 so we'll assume the other 32 are the user areas, in which you can import your own, even with simple 16-bit WAV files, if you like.

A big difference over Super 6 is that the Gemini's DDS 1 oscillator can now morph between waveforms. On a simple level, this is using the PW/Wave fader to move between the adjacent waveforms, or with the Waveform control engaged, between waveforms loaded in from those two banks of 16 into channels A and B. If this sounds complicated, it isn't; it just means you get a very usable form or sound morphing which, while not up there with full wavetable synthesis, does give you a lot of flexibility, especially when it comes to modulation, of which we'll see that there is plenty to sink your teeth into with Gemini.

Before that, we should quickly mention DDS 2 though, as it's quite different from DDS 1. It still has the five analogue waveforms, but its very right-hand position delivers pulse width modulation. It can also be used as an LFO and sub oscillator to beef up DDS 1, and also features tuning relative to that first oscillator.

Performing modulation

The first modulation area is the Performance Control Section which is where you will start to get the big Gemini picture. With its hands-on ribbon controller and polyphonic aftertouch, this synth is all about playing about with sounds in real time, and the PCS is where the modulation choices to further this aim start to reveal themselves.

First of all, the pitch-bend can modulate the pitch of the oscillators and the LPF cutoff frequency either left/right or by pushing up. Then, LFO 2 (choose from six waveforms) can also quickly be assigned to oscillators (for vibrato), filter cutoff (harmonic

SOME OTHER NEAT TOUCHES

One of the most joyful aspects of Gemini is seeing and hearing the dual features work with one another on each keyboard layer, so with the arpeggiator, for example, you can set an independent one for each layer, with different patterns and timings but they sync together so don't sound out of place.

Another feature is the Freeze delay which is an additional pedal input around the back that lets you keep a sound looping smoothly while you play over it, great for building up even bigger sounds or for live jamming. And as with everything in Gemini, you can do this per layer – it kind of turns a double synth into a treble or even quad sonic experience and makes Gemini one of the most hands-on 'just another five minutes' synths we've played.

Phew, just space to cover the sequencer – and we are very aware that Gemini's surface has only been scratched in this review. The sequencer sits alongside the arpeggiator and just a couple of buttons let you program up to 16 sequences of up to 64 notes in length. Again, you use the 16 buttons that access presets, waves, modulation, etc – this being at least their fifth function. You can play in each step with chords or notes and the sequencer automatically jumps to the next step (or group of 16 from four) after you release the note. You can also add slides (by pressing both steps simultaneously), accents, rests, and set the sequence length. As with pretty much everything on Gemini, it's well thought out and done quite brilliantly without the use of a screen.

changes) or VCA (tremolo). You can control it with aftertouch or by pushing the pitch stick up, or have it permanently switched on. There's also an Oscillator and Layer Selection that controls which of the oscillators LFO2 or the bender will be modulating (choose either DDS 1 or 2 or both) and synth layer they are acting on (upper, lower or both).

This is already a great hands-on start, but there is a lot more modulation by way of the 16 buttons above the right of the ribbon controller. These not only access Gemini's presets, sequencer (see box), and digital waveforms for DDS1, but can access global parameters. Their fifth function, by way of the Mod Assign button, is to access an 8 x 8 modulation matrix where eight sources can easily be applied to eight destinations, or get access to other destinations by moving the chosen control on the synth. In short, that's a lot of modulation and ways to perform with the sounds.

Sounds moving

And stepping through the presets, you might have to shut the world out for a while, and prepare to enter dreamland. You will be in your own performance for quite a while playing dual fat sounds, or a lot of split setups, with not only different sounds on the upper and lower part of the keyboard but different arpeggiators playing. We've rarely felt this way playing a synth: that we're creating quite magical pieces of music pretty easily with splits, direct hands-on control tweaks and performance tools providing the necessary variations. We're not even skilled players, but Gemini makes you feel you are. That said, as we conclude later, having some dexterity could be a bonus. Overall though, prepare to be swept away by majestic pads, extraordinary shimmering electronica pulses, many incredible arpeggios, and classic sweeping synth grandeur.

But what really separates this synth from the rest – and it really does stand head and shoulders above them because of this – is the excellent ribbon controller running along the main panel, the polyphonic aftertouch, and all that modulation we've covered, particularly by way of the Performance Control Section. These combine to add an extraordinary amount of expression when playing. Indeed references have been made to the Yamaha CS-80 in terms of how dramatic and moving Gemini's sounds can be because of them, and quite rightly so. Just stepping through presets, playing arpeggios, layering sounds, and bending and shaping them will have you stuck playing on this thing for far longer than you'd planned. "Your tea's ready!" Yeah, whatever. I'll starve for now. And record everything, because after an hour of messing about you'll have that long-awaited album you'd been planning.

TWICE AS NICE: You really do get two sets of identical controls to control the 'twin synths' on Gemini, each of them coloured differently in white and red/orange

ALL BUTTONED UP: 16 buttons to load different waveforms, presets, sequences, modulation sources and destinations, or press Shift to access other MIDI, MPE and Global functions

TOUCHY FEELY: The ribbon controller – alongside the polyphonic aftertouch – offers live performance elements that really demand to be explored

BEND IT, SHAPE IT... The Performance Control Section allows you to access basic modulation fast by way of LFO and the pitch-bend

Gemini launch?

Gemini is a synth to be messed with, that is for certain. It's not really, in truth, the kind of bi-timbral synth where you play a bass on the bottom half and a lead on the top and then everybody's happy. This is more about how the layers interact and about how you perform with them, the sounds in them and the controls over them – see the box for more. We would even say that Gemini is more of a keyboard player's synth – or at least one that you want to get physical with – compared to many we have looked at of late, because knowing what you are playing, mixing sounds, adding arpeggios, tweaking with aftertouch and using the ribbon controller all pay huge dividends.

Gemini is not cheap, but like other polys including 3rd Wave (almost) in this price range, when you look at its specs and power, it's hard to argue with the price. And when you play with all of these performance options, push the limits of its layering, morphing and polyphonic options, this synth can sound more beautiful than pretty much any other on the market. This might make it a bit too 'nice' for some – maybe too 'electronica' as opposed to hard-edge dance – but personally, we could get lost in its sound for eons.

We won't say that 'Gemini is the XXX of the 21st century', even though the synth is almost demanding we do – *cough* that CS-80 again *cough* – because while it might lack a 21st-century screen and other niceties, this could and should take its place as one of the great 21st-century polysynths. **FM**

FM VERDICT

9.2

One of the best performance synths on the market. We're in a golden age of polysynths at the moment and this is one of its stars

Oeksound Bloom

£169

Following the widely-loved Soothe, Si Truss asks if Oeksound's latest might become another must-have

CONTACT **WHO:** Oeksound **WEB:** oeksound.com **KEY FEATURES** Adaptive tone-shaping plugin capable of working in stereo and mid-side modes. **FORMAT:** PC/Mac, AAX/AU/VST

Oeksound's 'dynamic resonance suppressor' Soothe has become something of a must-have for mix engineers, and has earned its creator a deserved reputation as one of the most interesting developers in the audio plugin realm, despite having just a handful of products to its name.

With Bloom, Oeksound is aiming to further bolster that reputation. Described as an "adaptive tone shaper", Bloom is another dynamic plugin that responds to the frequencies of incoming audio and applies varying forms of processing depending on its analysis. Here, that involves a combination of dynamic EQ and multiband compression, that latter element kicking in when the plugin's Amount control is cranked beyond 70%.

Controls offered by the UI are fairly simple, and much like Oeksound's other plugins, much of the more complex stuff is hidden behind the scenes and handled by the plugin itself. There are four frequency bands that can be targeted with boosts or cuts, which can be applied in linked, stereo split and mid-side modes. Attack and release controls adjust the timing of the processing. Finally, a Processing Graph can target the overall range of the processing and apply low or high-pass filters to the output, as well as offering real-time visual feedback on what Bloom is doing.

Bloom is simple to get to grips with. Even if you're never exactly sure what's going on under the hood, it's the sort of plugin that makes it very easy to quickly make a track sound better particularly when placed across a bus, master channel or applied to complex, frequency-rich audio. It can be colourful and creative, but even when pushed to extremes it's incredibly flattering to whatever input signal you feed it.

At £170, Bloom isn't cheap, in a price range closer to some full DAWs than many rival EQs. Oeksound is clearly aiming for the pro market here though, and I have a sneaking suspicion that Bloom may quickly become another 'must own'. FM

FM VERDICT

9.0

An easy-to-use and undeniably effective plugin, Bloom is a powerful mix tool that does a lot to justify its 'pro' price point

THE PROS & CONS

+

Easy-to-use interface

Effective and flattering, particularly on bus and master channels

Can be both clean and characterful

–

Expensive

Can be a little opaque about what exactly is going on under the hood

ALM Busy Circuits Powered Case from £199

Is this your new best case scenario? **Rob Redman** finds out

CONTACT **WHO:** ALM Busy Circuits **WEB:** busycircuits.com **KEY FEATURES** Aluminium build, On/off switch, 2amp bus board, Decksaver available

For many modular synthesists, the case that houses their precious modules may not be the sexiest part of the rig but it is the backbone that makes everything else happen. It's needed to house, transport and power a setup, so build quality, enough power for any given selection of modules and preferably low weight, for the travelling/gigging musician, are key.

ALM Busy Circuits has developed a fantastic range of modules but also a selection of cases that caters to a whole range of uses. All of these cases share certain attributes but there are some variations, depending on the size chosen, so do check things like available power for the size you want. That said, the power produced looks suited to the HP. Power is 'clean' with little to no noise audible, something worth noting for any modular system, where tracking down problem interference can be time-consuming and difficult.

The cases themselves are all aluminium, with standard extruded rails and anodised side and floor panels. There is a little construction needed as they ship flatpacked but it is a simple task and just takes a few minutes. The finish of all components is excellent and everything fits together perfectly, ending up with a solid and reliable-feeling product.

There is an on/off switch, rubber feet and an integrated power supply to feed the bus board. For the 6U 84hp version I tested, you get up to 2 amps power total on each -12V and +12V rails (1 amp total per row), plenty for the supported maximum of 32 modules. Each module header is keyed too, minimising potential costly issues with installing a module's power ribbon the wrong way round.

The range is pretty varied in sizes, though there are no behemoths. They start at 3U 52, a great little skiff for up to nine modules, with 1 amp of power available. At the top end is the 9U 84hp case, with 2.5 amps of power, supporting up to 32 modules.

For many users it's useful to protect modules, either patched or unpatched, so it's good to see Decksavers available, although not for all sizes (at the time of writing).

I think the smaller-sized options in the range would be great as breakout boxes, ideal for modules meant for live interaction, like joysticks, performance sequencers and so on, where they can be easily placed away from the main rig. The larger sizes are perfect for standalone rigs for taking to gigs, or for regular-sized studio setups. They fit nicely on a desk, which can help mitigate choice paralysis.

We all know a little limitation can work wonders for creativity. That said, some are plenty big enough to get a versatile set of modules in, so no matter what your end goal, there's something here for everyone. **FM**

FM VERDICT

9.0

Stylish, beautifully made cases that cater to a wide range of uses, with good amounts of power. Useful for travel or desktop needs

THE PROS & CONS

+

Excellent build quality

Good amount of clean power

Nice range of sizes available

–

A small amount of construction needed

PreSonus Eris Pro 8 £429 each

Well designed coaxial monitors can offer substantial sonic benefits. **Jon Musgrave** hooks one up

KEY FEATURES **DESIGN:** Single point source coaxial, front ported **CABINET:** Vinyl-laminated MDF **DRIVERS:** HF 1.25" silk dome tweeter, LF 8" woven glass fibre composite **AMPLIFICATION:** Class AB, LF 75W, HF 65W **CROSSOVER FREQUENCY:** 3.1kHz **FREQUENCY RESPONSE:** 35Hz - 20kHz **INPUT IMPEDANCE:** 10kΩ

The recently revamped PreSonus Eris monitor range includes upgrades to existing models and also some new additions. The Pro 6 and Pro 8 are new 2-way coaxial nearfields aimed at professional users, and it's the larger Pro 8 that I have for review. Coaxial monitors are not a new thing for PreSonus. Nevertheless, the Eris Pro 8 leaves behind the distinctive horn tweeter from their Sceptre series monitors, opting for a more low key and, I think, more attractive tweeter design.

Multi-channel marvel

Key components include an 8" woven glass fibre woofer, 1.25" silk dome tweeter and class AB amplification (65W HF and 75W LF). These are very similar specs to those for the Eris Studio 8; however, overall the Pro 8 is more compact, more expensive and specifically targets professional users. Key aspects, which you won't find on the Studio 8, are the side-positioned mounting points. With a suitable heavy-duty bracket the Pro 8 can be ceiling or wall-mounted, making it ideal for multi-channel users. What's missing, though understandably at this price, are digital inputs and digital room calibration.

The Eris Pro 8 is a front slot-ported design. The centre-mounted tweeter includes its own mini waveguide and the whole tweeter configuration sits slightly proud of the front baffle. Round the back you'll find two balanced inputs (XLR and ¼" TRS) and one unbalanced input (phono), alongside amplifier gain, acoustic tuning controls and power switch. There's also a dip switch to activate power saving mode, and when this is active the front panel blue power indicator changes to white.

The acoustic tuning controls are very similar to Eris Studio series monitors. The Acoustic Space setting (-2dB or -4dB) compensates for wall and corner proximity and operates from 800Hz down. This has a very obvious influence on the sound, and although I settled on using the -2dB option, I could probably have used the flat setting even with the monitors reasonably close (about a foot) from the back wall. Meanwhile, if you're using the Pro 8 with a subwoofer there's also a handy low-cut filter at 80Hz or 100Hz. Further tweaking comes from mid and high band EQ (+/- 6dB at 1kHz and 10kHz respectively).

Cohesive image

In listening tests, the Pro 8 delivers an accurate pinpoint sound, with the two drivers producing an impressively cohesive image across the frequency range, even up close. The sweet spot is also broad, both horizontally and vertically, which enhances the ease of use. I was able to A/B them with the Studio 8, and there are clearly similarities, no doubt down to the underlying components. That said, there are also very clear differences, and although to my ears the Studio 8 has a bit more low end, I think the Pro 8 offers a more evenly balanced sound with a more revealing mid range. Still, the big difference is the cohesiveness of the image, and this is where the Pro 8 truly shines.

At £429 each, the Eris Pro 8 might seem on the pricey side, but I think that's simply because its sibling, the Studio 8, is so competitively priced. Ultimately, the Pro 8's balance and imaging really drew me in, and if your budget allows, I think they're definitely worth checking out. **FM**

THE PROS & CONS

+

Excellent cohesive imaging facility

Revealing mid range

Good choice of inputs on offer

Great value

Onboard EQ

Can be wall- or ceiling-mounted

–

No digital inputs or room calibration

FM VERDICT

9.0

A large nearfield with great balance and excellent cohesive imaging, and it should definitely be on your audition list

the t.bone HD 815

£28

Headphones designed for both recording *and* mixing? **Jon Musgrave** is intrigued

KEY FEATURES **DESIGN:** Closed back, over ear **TRANSDUCER:** Dynamic **TRANSDUCER DIAMETER:** 50mm **FREQUENCY RANGE:** 10-35kHz **IMPEDANCE:** 32 Ohms **MEAN SOUND PRESSURE LEVEL:** 99dB **MAX. POWER HANDLING:** 1800 mW **ACCESSORIES:** 3m cable (minijack to minijack), adapter 3.5mm to 6.3mm **FEATURES:** Twist-lock minijack on ear left cup **WEIGHT:** 364g (incl. cable)

In an ideal world, one set of headphones would suit all our studio tasks, but the need for isolation coupled with personal sonic and comfort preferences mean we often end up with multiple pairs. Up for review I have the t.bone HD 815, a new budget headphone designed for both recording and mixing.

The HD 815, much like t.bone's new HD 515, is a closed back over ear design. Aimed at the budget-conscious buyer, and available solely from Thomann, the price including delivery to the UK is £38. That said, out of the box, these feel anything but cheap. With plenty of metal in the construction, including the ear cups, they should be robust enough for regular studio use. And they look pretty good as well.

With t.bone's new logo on the ear cups and subtle left/right labelling on the headband, the all black design is both slick and minimalist. In terms of construction, the ear pads and headband incorporate plenty of padding coupled with a super soft covering, and the panel-stitched ear pads add structure and depth.

The headband includes some, though not loads of, length adjustment, and the ear cups themselves have limited rotational movement, which isn't ideal. Even so, I found the fit pretty good with the ear pads properly enclosing my ears. It's worth noting that the ear cups do not fold in for storage. Audio connection is via a twist-lock minijack on the bottom of the left ear cup, and the included 3m lead is fabric-covered, much like the individual ear cup leads. Nice touch. Even so, the twist-lock minijack socket is too narrow to accommodate a regular minijack plug, so you'll probably need to contact Thomann should you need a spare lead.

For recording you need your headphones to offer isolation, but also upfront sonics so that you can hear yourself properly. The HD 815 delivers plenty of isolation, keeping outside sounds at bay and limiting spill back into mics. Sonically, it has quite a hi-fi delivery, with plenty of high and low frequencies and a more subdued mid range. That said, this isn't particularly extreme, and doesn't have the excessive hyped sound of some consumer designs. It's certainly very different to the HD 515. Overall, although I'd happily use it for recording, it doesn't seem like the sound of the HD 815 has been tailored particularly for recording. However, the moderately sweetened sound makes for a reasonable mixing headphone, and although the design is quite bulky, I could certainly mix on these for extended periods.

Designing a headphone that suits both recording and mixing is a challenge

Designing a headphone that suits both recording and mixing is a challenge. The HD 815 does a reasonable job in both categories, but I wouldn't say it excels at either. Even so, these are budget headphones, and I can't think of another headphone at this price point that delivers this combination of sound and build quality. With that in mind, overall I think the HD 815 most definitely makes an attractive budget option. **FM**

FM VERDICT

8.5

If you're after a well made budget headphone that can handle both mixing and recording duties, the t.bone HD 815 is one of the best options available

THE PROS & CONS

+

Excellent isolation

Good build quality

Reasonably balanced sound

Detachable twist-lock cable

Stylish design

–

Quite bulky

Røde NT-1 Signature £139

One of the world's most popular studio microphones gets back to basics. **Matt McCracken** finds out more

CONTACT **WHO:** Røde **WEB:** rode.com **KEY FEATURES** A large diaphragm cardioid condenser microphone with a 4dBA noise floor and excellent background noise rejection. Comes with a shock mount, pop filter, XLR cable, and microphone soft case

THE PROS & CONS

+

Super-flat response, sounding particularly impressive on vocals

Ultra-low noise floor captures quiet sources with minimal unwanted noise

High SPL rating, great for use as a drum overhead or on cranked guitar amps

–

No low-cut or pad switches on the microphone body

Billed as "the world's most popular studio microphone", the Røde NT-1 has been a mainstay of home recording musicians for over 30 years. This signature edition eschews the NT-1 5th Generation's USB connectivity, returning to a more traditional studio style with a single XLR out. Speaking of style, it's also available in a range of matte colourways including blue, green, pink, purple, and red, or if you prefer your mics more monochrome, it's available in black too.

Like its predecessor, it features a JFET impedance converter, ultra-low noise floor of just 4dBA, and can withstand SPLs up to 142dB. This makes it ideal for capturing a variety of sources from the quietest whisper of a vocal to the blast of a snare drum or guitar cab. It has the same HP-6, 1-inch sputtered gold capsule that the previous generation features too, promising excellent noise rejection.

Our review model came in sleek matte black with a shock mount, pop filter, XLR cable, and soft sheath for the mic itself. The mic feels robust in your hand, if not heavy. The aluminium shell is super smooth and should be tough enough to be resistant to dings and scratches, and it gives us the overall feeling that it's more than capable of putting up with use and abuse in a working studio. There are no low-cut or pad switches like you'd find on other condenser mics, but to be fair, these are nice extras rather than must-haves for us.

> We were blown away by the warmth and detail in the sound

To start our testing, we placed the NT-1 about eight feet in front of a DW drum kit to see how it captured the wide frequency response. The results were really quite good, with it performing well as a drum room mic, capturing a very honest picture of the sound of our kit in a less-than-stellar rehearsal room. You could even purchase two and use them as a pair of budget overheads.

Next, we wheeled out our Orange 2x10 tube amp and placed the mic right up against the grill, dialling up the volume. Things got fizzy the more we cranked the volume at that distance, but bringing it back about or foot or so opened things up, delivering a nice ambience that never got wishy-washy. Recording both rhythm sounds and leads delivered more than usable tones, and we can see it pairing nicely with an SM57 for a more focused sound.

Our final test was on vocals and here we believe we found the NT-1's raison d'être. Capturing a Billie Eilish-style breathy vocal we were blown away by the warmth and detail in the sound. It's neutral, but never dull-sounding, despite being darker than the NT-1A which we've used many times previously.

Overall it's this tonal neutrality of the mic that we've ended up loving, making it ultra-versatile as well as fantastic value for money. **FM**

FM VERDICT

8.5

Versatile enough to do a great job on drums, guitars, vocals, or anything else, this excellent value mic is well worth the asking price

IK Multimedia ARC Studio £299

This all-in-one room correction package means no more excuses for a muddy low-end, says **Chris Corfield**

CONTACT **WHO:** IK Multimedia **WEB:** ikmultimedia.com **KEY FEATURES**
SAMPLING RATE: 96 kHz Audio resolution: 24-bit **INTERNAL PROCESSING RESOLUTION:** 32-bit float **FREQUENCY RESPONSE:** 2Hz-45.0 kHz **DYNAMIC RANGE:** 120dB **DIMENSIONS:** 144mm x 120mm x 45mm **WEIGHT:** 465g

Any space will have a 'sound' of its own. This is dictated by size, the materials used on the floors and walls, the ceiling height and even the amount of 'stuff' in the room. While your monitor speakers might be touted as flat frequency, all of these factors could be colouring the sound that reaches your ears.

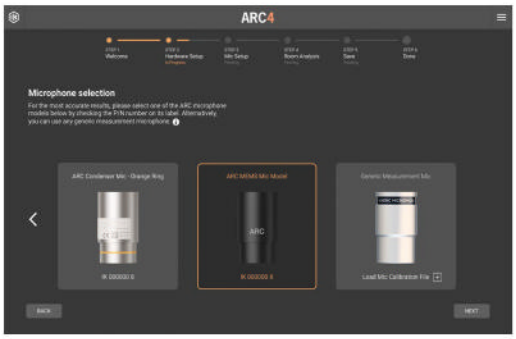
Enter room correction. While we'd advocate the first step being acoustic room treatment, with baffles or foam, there are also some interesting software solutions which, through measurement, calibration and compensation, attempt to mitigate these external factors and provide as close-to-flat frequency response as it's possible to create. You can then produce, mix and master safe in the knowledge that any peaks and troughs you're hearing are from the mix itself, not the room.

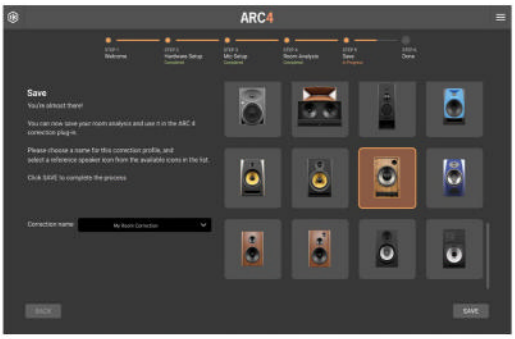
ARC Studio, from IK Multimedia, offers a neat solution. The package includes a calibration mic, software running IK's proprietary correction algorithms and a hardware box onto which you load your saved profiles of corrected rooms/speakers. Once the profiles are created, you can pack away the mic and feasibly never need to reload the software app again.

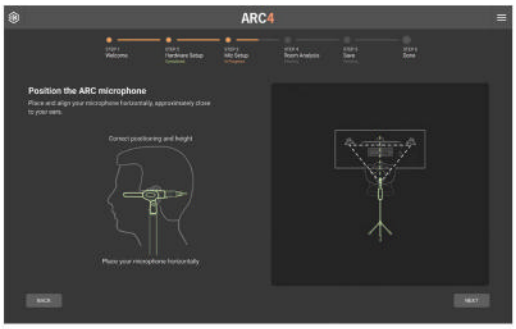
Setting up is straightforward and, dare I say it, fun. An intuitive wizard in the software app guides you through the process, which starts with setting the calibration mic at different locations and heights. It then plays a series of test tones, which measure and analyse the frequency response of the room, and your speakers, creating a personalised profile with everything nicely levelled off.

Remember the goal here is accuracy – this isn't a device you'll use to enhance your mixes, nor will it magically transform an inexpensive set of speakers to pro-level. It will, however, ensure the mix you're hearing is consistent from one listening environment to another.

Once your room has been analysed, you can see visually where any problem areas reside. The app will try to resolve these automatically, though an edit function allows you, within reason, to manually tweak specific areas along the frequency spectrum. I found this offered only broad-brush tweaks, but I did welcome its inclusion.







With your correction profile created, you simply need to transfer this over to the ARC Studio hardware box via USB. I loved this, because once your profile is synced to the box, you don't require any drivers or CPU-hogging plugins within your DAW, and there is zero latency. You send the output from your audio interface into the ARC Studio hardware box, and from there out to your speakers. All processing or correction is carried out within the box itself. It's the ultimate set-and-forget device.

As with all of IK's gear, the user experience is slick and well thought out. The results speak for themselves too, delivering clarity and accuracy which means you can mix your tracks with confidence. When you consider that advanced room correction systems can run into the thousands, this sub-£300 package becomes a very attractive proposition indeed, and an easy one to recommend. FM

FM VERDICT

9.0

One of the most innovative solutions we've seen for recording perfectionists, all for under £300 as well. Highly recommended

THE PROS & CONS

+

Highly intuitive in-app setup wizard

A hardware component to carry out the processing means low CPU

Presets for a variety of listening environments. Your home cinema will never sound so good!

–

Every 'new' room or space you record in will require the calibration process to be repeated

Klevgrand OneShot $149

The Swedish developer launches a sample-based drum machine. **Si Truss** gives it a shot

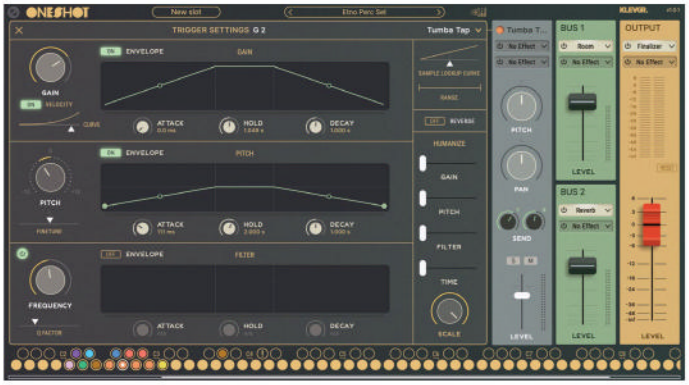
CONTACT **WHO:** Klevgrand **WEB:** klevgrand.com **KEY FEATURES** 15-slot drum machine with two effect buses and master effects. PC/Mac, AU, AAX, VST

Against the backdrop of a market currently awash with beat-makers utilising AI tools and ultra-modern sequencing tricks, Klevgrand's new drum sampler OneShot looks decidedly old-school. This is a fairly straightforward, sampler-based drum machine, very much in the same lineage as Native Instruments' once omnipresent Battery.

OneShot lets users load up to 15 drum sounds per kit. Each sound is given its own slot with controls for volume level, pitch and pan position, along with the ability to add up to two insert effects for each sound. On top of this there are two effect buses, each of which can house up to two effects, to which each sound can be sent individually. Finally, the master output features another two effect slots. Each of these effect slots can be filled with one of the same list of 10 processors, which range from EQs and compressors through to reverb, delay and several flavours of distortion.

Although the basic setup is fairly simplistic, what really sells OneShot is the quality of its included sounds. There are 200 presets included with over 8,000 individual sounds, representing a broad range of acoustic drums, interesting percussion kits, electronic sounds and hybrid instruments. There's obvious quality to the recordings all-round, and the effects are well-judged and capable of bringing kits to life. The stock sounds can be expanded too, either using a simple upload process to add samples from your own library or via extension packs available from Klevgrand's site, which can expand the remit with tonal sounds like kalimbas and glockenspiels.

OneShot has a few further tricks up its sleeve. Clicking on the MIDI trigger assignments along the bottom of the UI brings up the Trigger Settings window. Here, any of the sounds can be assigned to respond to a MIDI note of your choice. However, OneShot also goes deeper by allowing the user to assign volume, pitch and filter settings for each trigger, with AHD envelopes to apply movement to each. This is a neat feature as it means it's possible to set up a single sound to be triggered by several different MIDI notes, but with different pitch, volume, filter and envelope settings applied to each.



OneShot also features a set of effective humanisation tools, again applied to each trigger, along with round-robin capabilities for each sound generator. This latter element can be randomised, sequential or linked to velocity levels. There's also a flexible system of choke group assignments. These are handy tools and add to the realism of the sound. My only minor quibble is that I wish OneShot was capable of receiving MPE that could be routed to sample assignments and trigger settings.

There's no sequencing capabilities within OneShot, which some may see as a negative, but personally I don't think it's an issue; unless they really commit to the bit with cutting-edge features, onboard sequencers in plugins like these often pale in comparison to your DAW's capabilities anyway. What I do miss is some form of LFO, in order to add movement and modulation beyond that offered by the trigger settings.

While not the most radical drum instrument out there, for those looking for a natural successor to Battery, this might be the one for you. FM

A natural successor to Native Instruments' Battery

FM VERDICT

8.0

A drum machine that's fairly conservative in its design, but one that makes up for it with quality sounds and smart workflow features

THE PROS & CONS

+

Broad stock of quality factory sounds

Handy humanise and round-robin sample tools

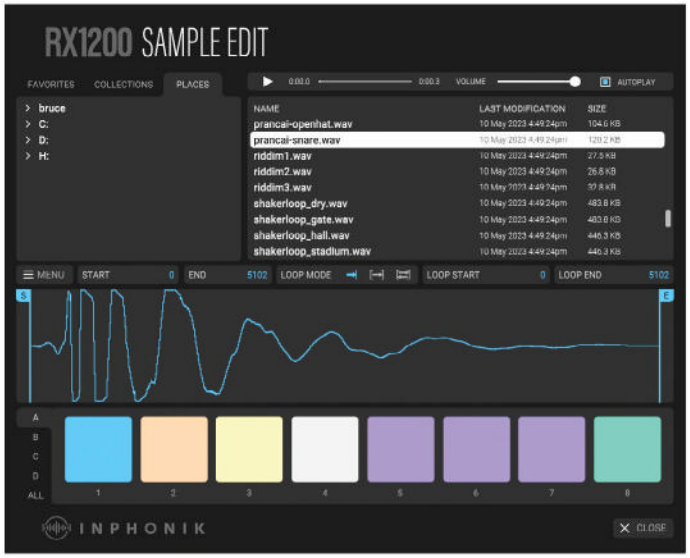
Trigger settings are great for adding variation to sounds

–

LFOs and additional modulation would be a good addition

No MPE capabilities

Inphonik RX1200 £26



Most of the reviews featured on these pages are based around soundware of various kinds, and mostly sample-based libraries hosted in Kontakt or other software. Occasionally, however, we've had forays into synthesiser presets and other content.

This time, it's a two-pronged approach, featuring a new (old) sampling engine that comes bundled with some interesting content. In the early days of sampling hardware, 'samples' only became distinct creative entities once the selected piece of audio was actually recorded into a sampler.

Not only that, but due to the technical limitations and compromises of the time, the process itself imparted a particular quality on the sampled audio – it was imperfect in ways that varied between units and how the whole process was set up and implemented.

This brings us to the SP-1200 on which Inphonik's RX1200 is based (or at least pays a serious tribute to). This was a later, improved version of the SP-12 sampling drum machine. Audio could be recorded and easily assigned to different pads for triggering and sequencing.

Each of the pads had a dedicated fader for adjusting tuning, decay and level, and samples could be routed to one of eight dedicated outputs for more elaborate mixing. Remember, this was before DAWs meant you could do all of this in the box.

Ultimately, the SP-1200 became a staple in the world of hip-hop as it combined sampling and sequencing in a straightforward but flexible way. Both its workflow and sound (due to technical limitations related to sample rate, bit depth and output filtering) meant that music made with it had a particular sound and quality.

Inphonik has attempted to reproduce the sound of the SP-1200, and as a recent owner of its precursor the SP-12, I can say it has done a great job. The familiar crunchy sound is there, and the workflow remains quick and easy even when combined with the more advanced sequencing on offer in your host DAW. Reason owners can purchase it as a Rack Extension.

The second part to this story, though, is the sample library that comes with the RX1200 – and to be honest, with the low cost of the software, it is almost worth the price of entry on its own.

You get 50 presets and 936 samples, covering drums, basses, keys, loop slices and others. As track-starters or mood-setters they're great and conjure up instant 'vibe', plus sample editing and sample/bank management is much easier than on the original hardware!

Bruce Aisher

inphonik.com

VERDICT 9.2

Impact Soundworks – Shreddage 3 Hollomatic $139

Just enough space to squeeze in a review of an Impact Soundworks product! Hollomatic uses the Shreddage 3.5 engine (as discussed in more detail back in the FM review of their Kontakt-based, deep-sampled Fender Telecaster). This time, Impact has turned its attention to a twangy, hollow-body electric guitar, and all the positive comments made in the previous review can be applied here. Once again, quality sampling, sophisticated scripting, detailed editing and strong effects combine to make this an excellent instrument.

Bruce Aisher

impactsoundworks.com

VERDICT 8.9

Audiotent – Infinite Space

Standard: £45. Deluxe: £55

A breathtaking loop landscape of immersive dub techno to explore – the luscious pads and textures will give your goosebumps goosebumps. As the analogue and digital synth riffs and rhythms run through your head.

The drums are rich and rewarding, with the crispest percussion riding tough kicks and powerful snare shots, as refracted chords and space basses bubble and bounce from ear to ear.

It's a portal to a precisely presented dimension of deep and delicate dubbed out sounds, with high-minded tops cruising at altitude over an ocean of liquid sub sonics and low frequencies.

There's 555 loops to sample, and 185 single hits to work with. And, for the more creative, bonus MIDI files to tweak in the Deluxe Edition. Another limitless library to lose yourself in.

Roy Spencer

audiotent.com

VERDICT 9.0

Sample Magic – Halftime Bass

From $7.99/month

How low can you go? Well, this batch of bottom-end business is straight-up "worm belly", as everything that oozes out of this sample pack tickles the lowest frequency ranges as it melts speaker cones and loosens tooth fillings. The experimental sound design crammed into this selection will have all you half-steppers popping a respectful gun finger or two.

The synthesised sonics on display will screw up any faces within two city blocks. There's naughty loops, grimy music kits, big and bashy one-shots, and Serum presets, if you feel qualified to take these sounds up a notch. *Roy Spencer*

splice.com

VERDICT 7.0

Toolroom – Tony Romera

From $7.99/month

The name on this artist pack has become synonymous with a signature style of French-tickled EDM. In a short time span, Tony Romera has delighted dancefloors the world over, gaining nods of approval from heavyweight heads like Diplo and Skrillex along the way. Here, he lifts the lid on his box of beats, inviting you in to sample his gloriously infectious take on club music.

There's unique drums to plunder, big room synths, and a soupçon of inspired riffs to lift. Plus, some perfectly pushed and pulled bass grooves, track-crowning FXs, and plenty of punchy one-shot. *Roy Spencer*

splice.com

VERDICT 8.0

Industrial Strength – Toasted £15.95

From the baked title to the 'lo-fi-beats to study to' YouTube art, this set of samples should delight the smokier track-makers amongst you. Inside there's 12 beat kits and six music kits, packed with skunky and funky files, plus individually packed drum snaps and musical one-shots to sprinkle over, as desired.

There's full plumes of thick and foggy basslines. Hazy hits and downtempo drums. And the chillax is set to max throughout, with all the sounds and melodies rolled with lazy laser-focus by a gifted team, sat on beanbags, nodding like toy dogs on a car's back parcel shelf. *Roy Spencer*

loopmasters.com

VERDICT 8.0

Loopmasters – Back To The Old Skool £24.95

Hold on to your jaws, as we rewind back to the days (daze?) of repurposed car logos and big yellow smiley faces. No time machine needed here – just a big fat stack of old-skool ravey samples to transport you back. There's one-finger pianos, warehouse stabs, vacuum-cleaner sounding basslines, and enough pounding drums to unite all the tribes.

The 127bpm beats in here thump, just the way you remember, and are all chummed up with some iconic, rose-tinted melodies from machines with numbers you know and love, from 106s to 909s. *Roy Spencer*

loopmasters.com

VERDICT 8.0

HIGH-END POLY SYNTHS

UDO Super Gemini
£3,595

Full Review: FM408 | One of the best performance synths on the market. The Gemini might be up there in terms of price, but does plenty to warrant the outlay.

Groove Synthesis 3rd Wave £3,279

Review: FM406 Simply one of the most powerful synths you could imagine, wrapped up in one of the easiest to use and most hands-on designs.

Arturia PolyBrute £2,299

Review: FM362 Arturia's first polysynth is packed with unique features and has bags of character. A worthy flagship for the Brute range and a top-tier poly.

Waldorf Iridium Core €1941

Review: FM406 Undoubtedly one of the best-sounding and most versatile synthesisers in recent years. The compact Core will be a hit with desktop producers.

Sequential Take 5 £1,229

Review: FM382 More than just a more affordable version of the Prophet, Take 5 sits very much on its own, as a distinctive synth with a fantastic sound.

HARDWARE GROOVEBOXES

Teenage Engineering EP-133 K.O.II £299

Full Review: FM405 | The K.O.II isn't the most advanced sampler on the market by any stretch, but there's a lot of fun to be had within its limitations.

Polyend Play+ $799

Full Review: FM405 The 'Plus' builds on the capabilities of the original Play by adding some neat synth engines alongside its sample tracks, enhancing the usability considerably.

Elektron Syntakt £949

Full Review: FM392 Building on the successes of multiple other Elektron instruments, Syntakt is a top quality analogue-meets-digital groovebox with a lot of power under the hood.

Roland SH-4d £549

Review: FM394 Roland have released a lot of retro-inspired gear in recent years, but this synth/drum combo stands out from the crowd as a real sonic playground.

Novation Circuit Tracks £360

Review: FM369 Circuit Tracks is an excellent update to one of the best value hardware instruments on the market. MIDI, samples and synths in one bargain box!

DAWs

Ableton Live 12 From £259

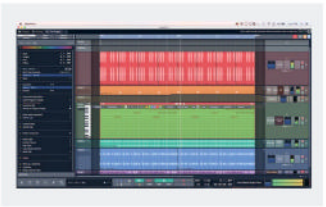
While some of the new features are better implemented than others, Live 12 is a generous update, stuffed to the brim with new ideas and real potential.

Image-Line FL Studio From £85

The latest version of FL Studio 21 adds exciting features, including in-DAW stem separation and Cloud-based libraries. Both are likely to become standard in other DAWs in the future.

Steinberg Cubase 12 £497

Review: FM382 Version 12 is a solid and dependable update to Cubase, and offers some excellent new features and small, but important, updates to others.



Tracktion Waveform Pro from $119

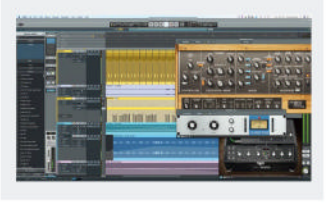
Review: FM345 Waveform is now friendlier, contains more creative tools and brings workflow ideas you'll have missed from other DAWs.

Apple Logic Pro $199

Review: FM361 Still no Logic 11, but seeing as Pro has had so many updates (it's now officially dropped the 'X' too), it's hard to complain. In the latest, spatial audio tools join the party.

Reason Studios Reason 12 £499

Review: FM375 It's debateable whether the upgrade is worth it for existing Reason 11 users, but taken as a whole, Reason is looking the best it has in years.



Universal Audio LUNA free

UA might not want to call LUNA a DAW, but let's be honest... this is a slick and stylish recording environment and a great freebie. It's no longer just for Apollo owners either.

PreSonus Studio One Pro £345

Now up to version 6, Studio One now has a lot to offer those working with traditional notation and scoring for screen.

Avid Pro Tools from $199/$9.99p/m

With its latest update, Avid is bringing Live-inspired nonlinear sequencing to the DAW in the form of Pro Tools Sketch.

Bitwig Studio 5 $399

Review: FM399 At v5, Bitwig Studio is hugely creative, experimental and deep. Some parts of its feature set won't suit everyone, but in its niche it's unrivalled.

SEMI-MODULAR SYNTHS

Intellijel Cascadia

£2,025

Full Review: FM401

A bit of a master stroke. Cascadia merges different synthesis types wonderfully and houses them in a format that works extremely well.

Bastl Softpop SPII

£445

Full Review: FM393

Softpop is an instrument that offers vast tonal options and great sequencing, connectivity and portability. A huge leap over its predecessor.

Korg Volca Modular £190

Review: FM342 A West Coast synth in a compact package. It may be fiddly, but give in to its experimental ethos and it's endless fun.

Moog Mavis £339

Review: FM387 Mavis can't be faulted at this price. It covers a wide range of tones, is well built and brings new options to the Moog format.

Moog DFAM £549

Review: FM333 A unique percussion synth, and the perfect partner to the Mother-32. The lack of MIDI is quite disappointing though.

Arturia MiniBrute 2S £575

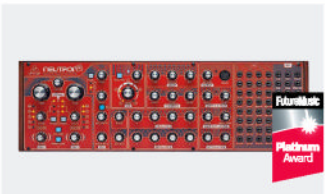
Review: FM328 Takes on an expanded synth engine and semi-modular architecture. The sequencer-focused 2S is our favourite.

Moog Subharmonicon $699

Review: FM359 Combines some familiar Moog sounds with experimental sequencing and rhythms. An inspiring, well-built and well thought-out synth.

Moog Matriarch £1,979

Review: FM355 The Matriarch is very inspiring. It's well built, has the classic Moog Modular sound and is complex yet still pleasingly intuitive. A future classic!



Behringer Neutron £549

Review: FM334 Despite a couple of design issues, the Neutron is a fun, useful and immensely flexible synth. At the suggested price, it's fantastic value for money.

PWM Malevolent £499

Review: FM388 A bold and characterful debut that's very much worth your attention, although elements of its vintage ethos occasionally limit its versatility.

oeksound

take control of your transients

Spiff is an adaptive transient processor that lets you cut or boost transients with great detail. It analyzes the incoming signal and recognizes when and where transients appear. Its time- and frequency-specific controls let you take charge of your transients, no matter how big or small.

soothe harshness so your EQ doesn't have to

Soothe2 is a dynamic resonance suppressor. It identifies problematic resonances on the fly and applies matching reduction automatically. This results in a smoother, more balanced sound and saves you from having to notch out frequencies by hand.
Learn more at oeksound.com

WARM, SILKY CHARACTER

ULTRA-LOW NOISE

WIDE DYNAMIC RANGE

MEET YOUR NEW

FAVOURITE MICROPHONE

NT1 *Signature Series*

STUDIO CONDENSER MICROPHONE

RØDE

rode.com

Exclusively distributed in the UK and Ireland by Source • T: 020 8962 5080 • W: sourcedistribution.co.uk/rode

9021

9000